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SPATIAL SPILLOVER EFFECT OF CONFLICT ON FOOD SECURITY

**ҚАҚТЫҒЫСТЫҢ АЗЫҚ ҚАУІПСІЗДІГІНЕ КЕҢІСТІК ТАРТЫЛУ
ӘСЕРІ**

**ПРОСТРАНСТВЕННЫЙ ПЕРЕХОДНЫЙ ЭФФЕКТ КОНФЛИКТА
НА ПРОДОВОЛЬСТВЕННУЮ БЕЗОПАСНОСТЬ**

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**Қақтығыстың азық қауіпсіздігіне кеңістік тартылу
әсері**

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ABSTRACT

The objective of this research project is to examine the spatial spillover effects of conflicts on the food security of nations. Previous studies report negative consequences of conflict on neighboring states as well as those directly involved (Murdoch and Sandler 2002). Violent conflicts can have chain reactions on various aspects of society such as development (Gates 2012), security (Barnett, and Adger 2007), trade relations (Brück, and. De Groot 2013), and foreign direct investments (Ezeoha and Okereke Ugwu 2015). This study focuses on a relatively less theorized area of such spillover effects of conflict: food security. To examine a conflict's negative impacts on food security, this study pays special attention to the two aspects of food security: food availability and food accessibility. Geographically, this project investigates the cases of Nigeria's food security during the period of conflicts within Nigeria and in Cameroon, a bordering country. In particular, this study argues that the direct impact of a violent conflict is caused through psychologically affected behavior of food consumers in the region of conflict and damages on logistics of food supply. Indirect impacts are, on the other hand, explained by a sudden migration of refugee which brings consequences on both demand and supply sides of food market.

This study employs the multiple case study research design, where 2-3 cases of violent conflicts are comparatively analyzed. Interviews serve as the primary method of data collection. This provides valuable insights into the experiences, perspectives, and consequences of the conflict in Cameroon on Nigeria's food security. Interviews are conducted with relevant stakeholders, including staff of non-governmental organizations, experts, and individuals affected by the violence and food crisis.

The study uses process tracing as a method of data analysis. Applying process tracing would enable the identification and analysis of the causal mechanisms and routes through which the violence in one region affects the food security of another region.

The findings of this study will integrate two bodies of literature, conflict studies and food security studies, as well as improve our understanding of the spatial diffusion effects of conflict on food security, specifically in Nigeria. The results derived from this study can guide policymakers and stakeholders in developing strategies and implementing measures to mitigate the adverse impacts of conflicts on food security.

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CHAPTER 1. INTRODUCTION

Background to the Study

Conflict in one region can cause severe consequences in another region. A perfect example is the effect of the Russian Ukrainian war on global food prices. According to the organization for Economic Co-operation and development (OECD), in as much as the most important consequence of the war in Ukraine is loss of life and the continuous humanitarian crises due to the displacement of people from their homes, there are economic implications of the war, not just for the states directly involved but also for the entire global community. Since the commencement of the war in April 2022, there has been increased inflationary pressure on international trade. Just when the supply chains seem to have received a comeback from the effects of the pandemic, the conflict between Russia and Ukraine has set them back once more.

The United Nations Food and Agricultural Organization (UNFAO) revealed that the Russian Federation and the Sovereign State of Ukraine top the list of agricultural producers worldwide. “Both countries are net exporters of agricultural products and are leading suppliers of foodstuffs and fertilizers to global markets, where exportable supplies are often concentrated in a handful of countries” (UNFAO, 2022). Recent reports have shown that the war has already triggered food insecurity in the world’s poorest countries. Besides food and agricultural products, a large percentage of the international community depends on Russia for raw materials and fertilizers for improved crop production.

The relationship between food insecurity and conflict has been extensively documented by numerous authors. Regardless of whether these variables are considered as independent or dependent, it is widely recognized that an escalation in food insecurity can contribute to conflict, and conversely, the existence of conflict can exacerbate food insecurity.

This however is not the case in Nigeria. For instance, insights from available data showed that despite a consistent pattern of conflict in Nigeria since the 1990s, food prices have closely mirrored the trends of these conflicts. However, in 2015, food prices began to steadily rise even as the number of conflicts significantly decreased. In 2015, 11% of the population experienced severe food insecurity, and there was a total of 365 recorded incidents involving Boko Haram throughout the year. However, in 2020, the percentage of the population facing severe insecurity rose to 19.1%, while the number of recorded Boko Haram incidents decreased to 195. Put simply, rather than experiencing a decline in food insecurity due to the diminished Boko Haram attacks, Nigeria has had a persistent rise that continues to this day.

More specific to this study is that conflict within one country can lead to severe detrimental consequences in another country, especially those that share long and elongated borders. The Boko Haram insurgency is not only prevalent in Nigeria, but also in neighboring countries such as the Republic of Chad, Niger Republic, and Cameroon. Could the occurrences of the Boko Haram insurgency in these states potentially impact the food security of Nigeria? Furthermore, the people of Cameroon are also engaged in a separatist movement in the northern region, which shares a border with Nigeria. This movement commenced in the latter part of 2016 and continues to persist up to the present day, which raises a question. Is the rise in food prices attributed to the crisis in Cameroon, despite the fact that the documented occurrences of the Boko Haram conflict in Nigeria have been consistently decreasing? Does the conflict in Cameroon lead to food insecurity in Nigeria? Can a conflict in one country adversely impact the food security of another country, particularly countries with shared borders?

This study is based on the Murdoch and Sandler theory of geographical spillover effects of conflict on surrounding countries. In order to address the research topic, the paper will examine two main hypotheses. The first is the direct impact of the conflict on the food security of the country in conflict. In this hypothesis, the paper presents two main arguments. The first

argument posits that the initiation of conflict results in panic buying and stockpiling, which in turn triggers a chain of events leading to food insecurity. The second argument suggests that the onset of conflict leads to the destruction of agricultural and transportation infrastructure, hindering the smooth production and distribution of food and livestock, thereby contributing to food insecurity.

The second hypothesis examines the indirect influence of conflict in one country on the food security of a neighboring country. To test this hypothesis, the research centers around two main arguments. Firstly, the destruction of agricultural and transportation infrastructure will impede the unrestricted movement of trade and food supply chains, resulting in food insecurity. Secondly, conflict stimulates significant cross-border migration, leading to an imbalance between the population in the receiving country and the available food.

This paper utilizes a research design that involves multiple case studies and employs process tracing as the methodology to test the hypotheses. The selected individual cases are used to account for factors that may influence the results, such as flood, trade, and migration policies. Within each case, in-depth interviews with community members who have experienced conflict incidents are conducted to identify patterns, connections, and causal mechanisms. This approach allows for an investigation into how specific events or activities lead to later outcomes and the identification of underlying processes.

This research intends to contribute to the body of existing literature in two major ways. First, adopting the multiple cases study design and the process tracing methodology, rather than the spatial econometrics model adopted by Murdoch and Sandler and other scholars, helps to focus on the causal mechanisms of how conflict in one country can lead to negative spillover effects in the food security of neighboring countries, and secondly, the result of this study will unite the conflict studies and food security studies.

While the intention is to focus on the use of online in-depth interviews through platforms such as Zoom or Google Meet, it is crucial to acknowledge that distance will pose a significant constraint. Conducting in-person, in-depth interviews enable researchers to collect information from interviewees by observing verbal cues and nonverbal communication, such as gestures. This level of observation is nearly impossible to achieve in an online interview. Secondly, and of utmost significance, the cases selected will likely be from border communities which are parts of the outskirts of the countries under study. The probability of encountering internet network issues, such as signal interferences due to vegetation or power outages, is high.

The thesis is structured as follows: it begins with a comprehensive examination of relevant literature, which is divided into three main subthemes: food and conflict studies, the direct impact of conflict, and the indirect impact of conflict. The literature review then concludes by identifying the gap in the existing literature that this study aims to address and explaining how it will contribute to the current body of knowledge. The subsequent section comprises the theoretical chapter, which provides a comprehensive explanation of the argument and causal mechanisms to be investigated. This is then followed by a concise overview of the selected cases for the study. The final section thoroughly examines these cases and concludes the thesis by evaluating the results of the case analysis and proposing potential new hypotheses.

CHAPTER 2. LITERATURE REVIEW

2.1 Food Insecurity and Conflict

The notion of food security gained significance and became a well-established concept starting in the 1970s. The term "food security" refers to a state in which individuals have equitable access to an adequate supply of food, enabling them to sustain both their physical well-being and their ability to contribute effectively to society. The concept subsequently underwent modifications to incorporate variables such as dietary preferences. In 1996, during the FAO summit, food security was defined as the state in which there exists widespread availability of both material and monetary resources. (Pinstrup 2009)

According to the FAO "Food security broadly consists of four main dimensions: availability of food, access to food, utilization of food, and stability of the other three dimensions" (2012, 283). Within these categories lie a multitude of food indicators pertaining to the issue of food insecurity. The presence of multiple indicators has rendered the task of achieving an agreement among experts about the definition of food insecurity exceedingly challenging. Scholars argue that the notion of food security is subjective and varies depending on the research context and specific case study being examined. In numerous instances, there has been a tendency to use the terms "food insecurity" and "vulnerability to food insecurity" interchangeably, suggesting that they are essentially identical in scholarly investigations. Hart states that "Food insecurity and vulnerability are sometimes used separately and sometimes synonymously. Food insecurity may be interpreted as a particular form of vulnerability (vulnerability to inadequate access to food or vulnerability to hunger) and at other times as an outcome of vulnerability" (2009, 363)

Conversely, access and utilization have also served as a metric for delineating the concept of food security. "The former refers to a household's ability to obtain food, which depends on income, prices, and market access; the latter refers to an individual's ability to process nutrients

and energy from food, which depends on many factors, including dietary diversity and nutrient absorption, intra-household allocation of food, and hygienic preparation” (2012, 283). “In a more expansive context, food security can be defined as a state or condition in which all individuals within a given population have consistent access to sufficient, safe, and nutritious food to meet their dietary needs and preferences, hence ensuring their overall well-being and health”. (2014, 1).

In this study, the operational definition of food insecurity will be predicated upon two dimensions: the accessibility and availability of food. Availability can be defined as the presence of an acceptable quantity of food that meets the required quality standards, which can be sourced either through domestic production or imports, including food aid. On the other hand, accessibility refers to the capacity of individuals to obtain the necessary resources to acquire appropriate foods that contribute to a nutritious diet. (FAO 2006). Hence, food insecurity can be delineated as a circumstance that emerges when the quantity of food accessible to individuals is insufficient, and the accessibility of the available food is hindered due to escalated prices.

This study aims to examine the impact of both intra and inter-state conflicts on the food security of nations engaged in warfare. There exists a divergence of scholarly perspectives about the causal relationship between food insecurity and violent conflict. Certain researchers claim that food insecurity serves as a primary driver of violent conflicts, whereas others contend that violent conflicts are the primary catalyst for food insecurity. Nevertheless, it is well acknowledged that violent and armed conflicts have the potential to undermine institutions and production mechanisms that are primarily responsible for safeguarding food security. The conflict in Syria, which began in 2011, had a profound impact on the agricultural production of the country. The arable lands in Syria experienced destruction and contamination due to the

use of explosives. Additionally, the irrigation and water systems were also destroyed. The theft of cattle and the destruction of crops further exacerbated the situation, resulting in a notable decrease in the country's food security. Some conflicts also have the potential to impede trading activities concerning food and agricultural products.

By utilizing a spatial econometric model, (Muriuki, Hudson, Fuad, March, and Lacombe, 2023). examined the immediate, long-term, and cumulative effects of violence on family income and consumption spending in the countries of Uganda, Ethiopia, and Malawi, and stated that “By disrupting underlying institutional foundations that (ideally) provide the peaceful production and distribution of food, violence can serve to disrupt vital supply chains and hinder peaceful transactions needed to provide adequate food supply”.

The occurrence of conflict has detrimental effects on various aspects such as food production, food accessibility, human capabilities, and overall well-being. These negative consequences arise from the destruction of the environment, health and healthcare facilities, education systems, and social infrastructure. Additionally, (Kemmerling, Birgit, Conrad Schetter, and Lars Wirkus 2022) have made significant contributions to the current body of literature by examining both civil wars and interstate wars. Their research has revealed that food insecurity not only emerges as a consequence of warfare but also serves as a fundamental factor underlying all forms of violent conflicts. They assert that in the context of violent conflicts and wars, armed forces of varying scales, ranging from vigilante gangs to expansive armies, attach economic significance to the provision of food supply.

According to (Echarren 2013), hunger can serve as both a primary catalyst for war and an unintended outcome of it. In certain circumstances, a population may experience periods of food scarcity as a result of deliberate actions taken by an adversary. The intention behind such actions is to undermine the morale of the opposing force and compel them to surrender by

depriving them of alternative options. In contrast to prevailing assertions regarding the historical ineffectiveness of this approach, the current conflict between Russia and Ukraine, coupled with Russia's recent withdrawal from an agreement guaranteeing secure transit for vessels transporting vital grain exports from Ukraine, particularly during a period marked by an escalating global food shortage, serves as evidence that this strategy remains enduringly relevant.

In a more basic and elementary study conducted by (D'Souza and Jolliffe 2012), the authors examine the relationship between food insecurity, conflict, and food price shocks in Afghanistan. They utilize nationally representative household survey data and private geo-coded conflict data to conduct their analysis. The findings of their multivariate model, however, not only indicated that the relationship between conflict and food insecurity may be more intricate, but also further suggested that “With a long history of political instability and conflict, as well as weak infrastructure and mountainous terrain, Afghanistan is particularly vulnerable to economic and natural shocks” (2012, 295). The case of Afghanistan offers valuable insights into how the food security of countries sharing similar factors is likely to be impacted by conflict.

2.2 Direct Impact of Conflict within a Country

Across different levels of society, including the global stage and local communities, there is a widely recognized consensus that a noticeable relationship exists between violent conflicts and the economy. After the cessation of major violent conflicts, the negative consequences of warfare on the economy become evident across societies, irrespective of their geographic location or regional affiliation. The extent of these repercussions is dependent on the magnitude of the conflict. Highly notable international armed conflicts, such as the First and Second World Wars, exert a significant influence on the global community, particularly with regard to

their economic ramifications. Civil wars and ethnic conflicts have extensive and profound ramifications, resulting in substantial detriment to both the impacted populace and, in certain cases, neighbouring countries as well.

(Schneider and Troeger 2006) demonstrated the significant impact of armed conflicts on the global economy. Their research revealed that the stability of the stock market is predominantly contingent upon the severity of an international crisis, its perceived severity, or the anticipated severity of its materialization. At the state level, the magnitude of the impact of violent armed conflict is predominantly dependent on the nature of the conflict. However, irrespective of the specific nature of the conflict, (Collier 1999) is of the view that internal conflicts are “a sufficiently devastating phenomenon that is likely to have large effects on both the level and composition of economic activity” (1999,181)

Several scholarly works have underscored the notion that civil wars have a more detrimental impact on a nation's economy compared to interstate wars, it is imperative to recognize that civil conflicts predominantly transpire within the confines of a certain territory and typically endure for longer durations compared to conflicts between sovereign states. The protracted duration of the war is accompanied by severe repercussions for the nation, and due to its prolonged character, it is more prone to inflict greater devastation compared to inter-state conflicts. (Collier 1999; Dunne and Tian 2014). In the context of civil wars, the detrimental impact is characterized by a greater degree of personalization and individualization compared to battles between states. During times of war, residential structures are often demolished, resulting in the loss of homes. Additionally, instances of looting occur, where individuals engage in the unlawful appropriation of others' belongings. Disturbingly, acts of violence such as rape and torture are perpetrated by individuals, further exacerbating the suffering caused by the conflict. Furthermore, valuable resources, including cattle and other assets that contribute

to productive endeavours, are frequently lost, with limited prospects for recovery in many cases. (Justino 2011) After interstate wars, it is probable that the state will experience a swift recovery by utilizing its available resources for reconstruction. However, individuals are responsible for the task of rebuilding their economic contributions and restoring their own livelihoods. (Nkurunziza 2008)

The consequences of interstate conflicts on foreign direct investments in nations engaged in warfare are twofold: they are harmful in nature and their negative effects intensify progressively as time elapses. Countries engaged in armed conflict experience a decrease in attractiveness to foreign investors, particularly with regard to their foreign direct investment (FDI) activities. (Kim 2016) Furthermore, other authors “suggest that the trade-related costs of war are of the same order of magnitude as the traditional costs of war measured in terms of human capital lost through deaths and injury.” (Glick, and Taylor 2010, 125) Additionally, private investors tend to exhibit caution when considering investments in war-torn countries due to the unpredictable economic conditions prevalent in such nations.

In addition to discerning the repercussions of civil war on a nation's economy, Weinstein and Imai undertook a more comprehensive investigation to ascertain the precise mechanism through which civil conflicts impact a country's economy. Their research specifically delved into the phenomenon of portfolio substitution within private investments. Private investments, as opposed to public investments, are the primary sector to experience the negative consequences of civil wars. During periods of conflict, it is more probable for governments to prioritize the security of public infrastructure above privately held infrastructure. In the event that private firms attain significant conglomerate status, they become susceptible to being targeted, resulting in their infrastructure being destroyed in the midst of a conflict. In their

words “the most destructive effect of civil war is through a reduction in private rather than public investment” (Weinstein and Imai 2000, 17)

The conclusion reached by Weinstein and Imai is consistent with the findings of Collier, which also highlight the adverse impact of civil wars on a nation's annual GDP per capita, resulting in a decrease of 2.2%. More so Collier stated that “the decline is partly because war directly reduces production and partly because it causes a gradual loss of capital stock due to destruction, dissaving and substitution of portfolios abroad” (1999, 181). In a similar line, (Thies and Baum 2020) found that countries that have experienced conflict and are in the post-conflict phase tend to exhibit subpar performance in terms of both output and consumption. The decline in GDP per capita can be attributed to a decrease in both labor productivity and total factor productivity. It can therefore be inferred that conflicts should be regarded as hindrances to economic advancement in the context of emerging and developing economies.

(Ammons 1996) compares African countries engaged in warfare and those not for their social and economic progresses. By utilizing significant indicators such as gross domestic product (GDP), the study revealed that countries experiencing armed conflicts exhibited a substantial decline in their GDP compared to those not engaged in warfare. Furthermore, it is imperative to acknowledge that warfare incurs significant costs, encompassing financial, economic and societal dimensions, extending beyond the mere toll of lives sacrificed in combat. (Stewart, Humphreys, and Lea 1997).

In addition, studies have shown that civil wars in Sub-Saharan African countries not only significantly and adversely affect the per capita income growth rate due to the decline in physical capital production, but also other factors, such as underlying political or economic conditions, may influence the occurrence of civil wars. Furthermore, the severity of civil wars was found to have a distinct impact on the growth rate of per capita income, as opposed to the

frequency of civil wars. In other words, the level of intensity demonstrated by a specific civil war, along with its resulting adverse impacts on the economy and various aspects of society, is more likely to directly affect the rate at which the average income per person in that country is increasing over time in comparison to less severe yet more frequent civil conflicts.

Nevertheless, it is important to highlight the presence of a significant correlation between violent conflict and unemployment. According to (Hameed, Rahman, and Khanam. 2023), while the military industry may witness a decline in unemployment rates due to the allocation of funds towards war-related expenses, the civilian population may encounter a rise in unemployment levels. First of all, there is probably a shift in resources from civilian sectors to military production and activities during conflict due to the loss of infrastructure, particularly civilian-related infrastructure, and displacement, which causes people to leave their homes and places of employment. The government continuously increases its military capability by hiring new employees, producing defence goods like weapons, advancing technology, and improving logistics. The implication is that there will be less civilian chances and more employment prospects for persons in the military sector.

In order to gain a deeper comprehension of the prospective correlation between intrastate conflicts and poverty, (Moyer 2023) asserts that conflict exerts a direct influence on poverty by augmenting the global population of impoverished individuals. Furthermore, (Moyer 2023) posits that a select few nations are more susceptible to poverty as a consequence of conflict. (Gates, Hegre, Nygård, and Strand 2012) conducted an analysis on the impact of violent conflict on the overall developmental trajectory of nations engaged in warfare. Their study specifically examined the extent to which these nations were able to achieve the Millennium Development Goals. The findings of their study indicate that the presence of war has a detrimental impact on poverty reduction, alleviation of hunger, attainment of primary education, reduction of child

mortality rates, and access to clean water. The findings of their research additionally demonstrated that in instances of prolonged conflict lasting for a duration of five years, resulting in a relatively low direct mortality rate, approximately 3-4% of the population experiences food insecurity. Moreover, it is worth noting that conflicts result in a comparable number of indirect mortalities among infants as they do in terms of direct fatalities. The loss of life in armed combat not only includes the direct casualties among soldiers, but also extends to the indirect consequences that result in the mortality of infants who would have otherwise survived.

The scholarly community has shown considerable interest in examining the effects of violent conflicts on inflation. (Thompson and Zuk 1989) argue that the impact of global conflicts on prices is anticipated to persist beyond the duration of the wars, potentially extending over multiple years. Moreover, the research findings suggest that global conflicts have the effect of enhancing and intensifying upward price fluctuations. It is worth mentioning that the consequences of these wars are commonly observed not during the active hostilities, but rather following their cessation.

From another facet, the initial manifestation of the influence of violent conflict on a nation's security and well-being is evident through alterations in household composition. The alterations in household compositions can be attributed to the impact of violent conflicts, which result in the loss of life and injury among both civilians and combatants. Additionally, such conflicts inflict significant psychological harm upon individuals engaged in combat, residents of war-affected communities, and displaced populations. (Justino 2011)

“Armed conflict often leads to forced migration, refugee flows” (2012, 1713). The occurrence of internally displaced persons and refugees can be attributed to the ramifications of violent armed conflicts within a nation. Both military forces and insurgent groups often engage in the

deliberate targeting of civilians as a means to achieve various objectives, such as expanding their territorial control, undermining public support for their opponents, gaining more followers, and acquiring valuable resources through the seizure and occupation of strategic locations and assets. The phenomenon of internal conflict has the potential to exacerbate the issues of poverty and displacement, leading to a self-perpetuating cycle wherein a significant portion of the population becomes increasingly marginalized from economic opportunities. (Justino 2011)

The situation is exacerbated by the deterioration of social networks, leading to the consequential depletion of crucial elements of the socio-economic and political capital of individuals in poverty. Individuals who have been forced to leave their homes due to conflict and those who are unable to return to their original residences face significant challenges in terms of socioeconomic marginalization and lack of access to resources. (Justino 2011)

Moreover, violent wars can also lead to the emergence of weak governments and inadequate or non-existent governing capabilities. As (Themnér and Utas, 2016) have stated, Societies that have undergone significant violence often exhibit weaknesses in their political systems, societal divisiveness, and a dearth of resources available for reconstruction purposes. In their analysis of Liberia, they assert that the adoption of a governing by proxy approach emerges as a viable strategy for post-war states. This is primarily attributed to the prevailing mistrust between the ruling elites, who have lost their exclusive control over the use of force, and the citizenry, who have gained significant influence in wielding violent power. From this perspective, it is common for elites to employ individuals with significant influence within the middle strata of society to assume responsibilities related to the governance of the state. The utilization of intermediary individuals, commonly referred to as brokers, can facilitate the development of a novel social contract among leaders and groups impacted by conflict. These

brokers serve as intermediaries, bridging the divide between groups that would typically refrain from engaging in dialogue with one another.

2.3 Spatial Impact of Conflict on Neighbouring Countries

Having established the direct impact of conflict on the diverse developmental paradigms of a nation, empirical research has demonstrated that “Conflict – irrespective of type – not only reduces host-country growth but also has a negative spillover effect onto primary neighbours” (2014, 547) According to (Paul and Tian 2014) “While studies on the impact of conflict in host countries have been extensively researched, its influence on neighbouring countries can be considered a new area of research and one with no consensus” (2014, 547) The lack of unanimity among scholars about the extensive ramifications of war in neighbouring countries can potentially be elucidated by the work of (Bosker 2014). He asserts that spillovers can manifest through both direct and indirect channels, rendering their empirical investigation challenging. By closely attending to the subject matter, one may potentially discern the occurrence of direct spillover effects. However, the measurement of secondary spillovers poses significant challenges, making it exceedingly difficult, if not quite impossible, to quantify them.

Despite the challenges associated with quantifying the indirect spillover effects of conflict on neighbouring nations, researchers have made notable progress in this area. According to (Groot 2010), the impact of conflicts on the economic growth of neighbouring countries is influenced by spatial spillover effects. These effects, as described by Groot, differ depending on the geographical proximity of the neighbouring countries to the conflict-affected nation. According to (Murdoch and Sandler 2002), countries that are geographically close to each other tend to experience a predominantly negative spatial spillover effect, which has adverse implications for their respective economies. Conversely, countries that are not in close

proximity generally observe a predominantly positive spatial spillover effect, which tends to have favourable consequences for their economies. (De Groot 2010) further states that “It is fairly obvious that host countries are likely to experience a negative growth shock as a result of conflict and that primary neighbours might also suffer from a negative spillover, at least in the short run. Secondary neighbours, on the other hand, are less likely to suffer a similar predicament and may, in fact, benefit from the occurrence of conflict” (2010, 153)

The prevailing viewpoint of the spatial impacts of conflicts on a nation's economy is the consensus reached by numerous experts, which supports the findings of Murdoch and Sandler, who are widely recognized as the foremost authorities on the subject of spatial effects of conflicts. According to Murdoch and Sandler, countries that share extensive and contiguous borders with states engaged in violent conflicts are more prone to directly experiencing the spillover effects of the war within their own territories, in comparison to countries that do not share borders with the conflicted nations.

According to Murdoch and Sandler, it is argued that “the effect of conflict is felt over an 800 km minimal distance” (Murdoch and Sandler 2004) and for some within an interval of 1000km. (Dunn and Tian 2014) , and that “countries most at risk from collateral damages stemming from neighbouring civil wars were those with longer contiguous borders with nations in civil conflict” (2002, 106), suggesting that an increased length of the border shared between two countries corresponds to a heightened probability of spatial spillover effects, wherein conflicts have a greater likelihood of impacting one another. On the other hand, in the study conducted by (Bjorling 2021), the examination of the repercussions of conflicts extending beyond their host countries in Africa, Asia, and Latin America led to the conclusion that the impact of conflict on the economy of a neighbouring country is primarily determined by the presence of contiguous borders, rather than the length of those borders.

(Dunn and Tian 2014) challenge this assertion by suggesting that the significance of studies supporting spatial spillover effects rooted in proximity may have been excessively emphasized. The inclusion of variations in internal political dynamics and economic conditions among 36 African nations has led to the determination and subsequent validation of prior study findings, which suggest that war exerts a more detrimental impact on the economic progress of nearby countries compared to those that are not in immediate proximity. Their findings “provides results that show consistency with previous studies, in finding a negative effect of conflict on the host economy and negative effects of spillovers on neighbours.” (2014, 20)

Furthermore, (Murdoch and Sandler 2002) assert that when examining the spatial repercussions of conflicts between countries, it is evident that the adverse effects experienced by one country as a result of conflicts in another country are indeed observable in the immediate aftermath. However, over a period of 25 years, the quantification of these negative impacts becomes challenging. In their words, they “found that civil war created a significant negative influence on short-run growth within the country and its neighbors. There was less clear-cut evidence of a negative impact of civil wars on long-run growth when measured over a 25-year period, which is probably due to the short-run nature of many civil wars so that their short-run impact is diluted by convergence” (2002, 106, 107)

While it is an established fact by scholars that interstate wars are more likely to spatially spill over into other states, the mechanism for this consequence of war in other states was however expanded upon by (Salehyan, and Gleditsch 2006). There is a contention that the occurrence of substantial population migration, which arises as a consequence of violent conflicts, functions as a convenient mechanism for the transmission of conflict, thereby materializing as a spillover effect that extends beyond the boundaries of nation-states. In addition to conflict acting as a catalyst for the displacement of people from their home countries, it is conceivable

that the presence of refugees has the potential to incite additional conflict, both within the country of origin and in the host country that graciously provides refuge to these individuals. The migration of refugees offers a favorable circumstance for insurgent organizations to disseminate and establish their networks, facilitate the transportation of weapons, and create an environment conducive to the spread of ideas that have the potential to incite conflict. (Salehyan, and Gleditsch 2006).

In addition to more conflict in neighboring countries as a consequence of violent conflicts, (Bosker 2014), aligning with Fearon's theoretical frame, states that wars possess the capacity to produce negative spill-over effects into neighboring nations through ethnic routes. The conclusion of his research is that the “risk of conflict spillovers is very large, but only under certain conditions. Only ethnic civil wars exhibit a tendency to spill over, and they are more likely to spread between neighbors which are ethnically similar. In the presence of ethnic links, a neighbor at ethnic civil war increases the probability of an outbreak of ethnic civil war on the home territory by 4–6% points” (2014, 216) in other words, there is a possibility that many individuals frequently have a sense of unease due to the heightened likelihood of a war arising in their own country, as a result of observing conflicts occurring in other nations. In numerous instances, it has been shown that when there exists a similarity in ethnicity, there is an increased likelihood of violent conflict occurring.

2.4 Gap in Literature

Numerous scholarly works exist regarding the impact of conflict on food insecurity within a nation, although limited information is accessible about the spatial spillover consequences of armed conflict in one country on the food insecurity of another country. The prevailing body of literature mostly centers on the examination of micro-level dynamics and household strategies aimed at mitigating food insecurity in the context of armed conflicts. (Bellemare,

2015) established that a favorable correlation between the rise in violence and the escalation of food prices, “limited food availability, restricted access to food (as proxied by the Human Poverty index), and coastal location also contributed to riots over food price spikes” (2013, 37)

The predominant subject matter of scholarly work on food insecurity and conflict mostly revolves around the examination of causality and reverse causality between these two phenomena within a certain nation. Moreover, existing literature examines the spatial spillover effects of conflict within a country on various aspects such as the economy, GDP per capita, domestic politics, and security of neighboring countries. However, there is a dearth of research on the spatial spillover effect of conflict in one country on the food security of another country.

This study aims to expand upon the previous research conducted by Murdoch and Sandler about the spatial spillover effects of conflict on the economy of neighboring countries. Specifically, it will concentrate on the issue of food insecurity in a neighbouring country that shares a border with the conflict-affected nation. Rather than adopt the spatial econometric model like Murdoch and Sandler and other scholars in spatial spillover effect studies, this study will adopt a qualitative approach and focus on the how of the effect of conflict. By looking out for the causal mechanisms on how conflicts in one country led to food insecurity in another country, this study will provide specific details rather than an overarching generalization like other studies. In addition to the primary objective of this study, this research will also consolidate the existing body of information pertaining to the spatial spillover effects of war and food insecurity.

CHAPTER 3. THEORY

3.1 Theoretical Framework

The present study is grounded in the overarching theoretical framework that examines the direct and indirect impacts of armed wars on a nation. The direct impacts of a conflict are typically readily apparent, often occurring within the country where the conflict is taking place. On the other hand, the indirect effects suggest that although a certain nation may experience the immediate consequences of an event within its borders, there are also secondary repercussions, both adverse and beneficial, that might extend to neighboring countries.

These adverse consequences, as previously mentioned in the existing body of literature, have the potential to encompass a wide range of societal functions, including but not limited to the economy, security, and domestic politics. However, the primary focus of this research lies in examining the consequences of conflict on the food security of nations engaged in armed conflict as well as their neighboring counterparts.

In the context of this study, the concept of food insecurity will be further classified into two distinct subcategories, namely food availability and food accessibility. Food availability refers to the presence of or existence of food. This entails a value chain that involves both local food production and the importation of food. To guarantee and maintain a state of food security is contingent upon both the quantity of food available and the degree of ease with which the available amount can be obtained. Accessibility pertains to the degree of ease with which someone can obtain readily available food. Food accessibility encompasses various aspects that contribute to the acquisition of food. In the context of this study, our attention will be on rising food prices.

3.2 Direct Impact of armed conflict on Food security

During the occurrence of a conflict outbreak, two significant phenomena impact the food security of the region. The first is the purchasing and stockpiling of food items and secondly is

the destruction of infrastructure essential to food security. The selection of a particular course of action leads to a sequence of interconnected events that ultimately lead to either a decrease in the availability of food or the inability to acquire food, and ultimately food insecurity.

Individuals are inclined to engage in food hoarding due to two primary factors. Firstly, there is a heightened apprehension surrounding the unpredictability of the conflict duration and the magnitude of its impact. The populace exhibits a sense of ambiguity regarding the potential duration of the conflict, speculating its temporal extent to range from a brief period of one week to a moderate duration of one month, or even an extended span of years. This uncertainty is manifested through the act of stockpiling, driven by the prevailing belief that the longer the conflict persists, the higher the probability of disruption to the supply of vital commodities and services. (Kaur and Malik 2020). The second factor pertains to the presence of confusion regarding the timing of assistance, whether it be from the national government or the international community. During periods of crisis characterized by panic buying and stockpiling, food items emerge as the priority on the list of items being stored. The list is primarily comprised of staple food items, including grains, cereals, meat, milk, and infant food. (Kaur and Malik 2020).

The act of stockpiling and panic buying results in an immediate disparity in the allocation of food resources. Individuals that are classified as vulnerable populations due to their advanced age, limited access to markets, or insufficient financial resources to accumulate supplies are faced with a scarcity of food resources during times of war.

Furthermore, as the phenomenon of panic buying persists, individuals succumb to the bandwagon effect, wherein they engage in purchasing and hoarding behavior simply because others are doing so, despite it not being their initial reaction to the outbreak of conflict. This phenomenon leads to a significant increase in the demand for food products, resulting in a rapid

depletion of the existing food supply in stores and marketplaces, thus giving rise to an apparent scarcity. Because of the abrupt surge in food consumption, suppliers may encounter difficulties in meeting the continuously escalating demand, resulting in a disruption in the entire supply chain, and delays in restocking and distribution processes. The subsequent progression of events entails a rise in the prices of accessible food, resulting in a decrease in its affordability.

At the outbreak of conflict, its direct impact is immediately in the destruction of two major infrastructure: Agricultural infrastructure which includes farmlands, food processing facilities, and pre-existing food reserves, and Transportation infrastructure which includes established trade routes. (Adesoji and George 2017)

The resultant effect of this destruction in Agricultural infrastructure is that there is a reduction or total collapse of Agricultural activities which will eventually impact the local production output and food availability. Farmers face a situation where they are unable to cultivate their farmlands or rear livestock or engage in agricultural production, be it for subsistence or commercial purposes.

Furthermore, because destruction is an inherent outcome of armed conflict, this destruction encompasses not only the devastation of farmlands but also the deterioration of the environment. Consequently, even after the armed conflict comes to an end, the restoration of food production levels to their pre-conflict capability may require a significant period of time. The reconstruction of irrigation systems is vital, as it allows for the optimal recovery of farmlands, to enable them to achieve maximum productivity. Consequently, this inevitably results in a decline in local production and a decline in available food.

On the other hand, the destruction of transportation and established trade routes significantly undermines the established trading systems. The transportation system is significant in the food production value chain as it not only enables the transit of food and agricultural products from

the points of production to the market for the sales to final consumers, but also affords the consumers the route to the points of purchase of these food items. Transportation routes may become obstructed or subject to limitations, impeding the movement of food supplies to marketplaces and by implication results in limited or no access to marketplaces by both farmers and producers as well as consumers.

Consequently, this situation inevitably triggers an escalation in prices and results in an abrupt surge in the cost of the available food, thereby further hindering people's ability to obtain it.

To sum up, the occurrence of a conflict outbreak initiates two major series of interconnected events that ultimately result in the emergence of food insecurity. The first series of events encompass panic-driven purchases and stockpiling of food, increase in demand, disruption of supply chain, and increase in food prices, while the second series of events include, destruction of agricultural infrastructure, decline in local food production, and disruptions in trade systems stemming from the breakdown of transportation infrastructure, as well as inflationary pressures and a rapid escalation in food prices.

Regardless of the specific pathways, the outcome is consistent: a reduction in the accessibility and availability of food. However, although the immediate repercussions of reduced food accessibility may be more apparent, a decrease in the availability of food can be seen as a subsequent effect of war. The interplay between these elements ultimately results in a sustained deterioration of a nation's food security when it is engaged in armed conflict.

H1: The presence of armed conflict within a nation inevitably results in an adverse effect on the overall state of food prices and market accessibility/ food supply availability within said nation.

3.3 Indirect Impact of armed conflict on Food security

The second component of the idea is based on the notion that armed conflict might have an indirect impact, spreading from one country to another. Academic scholars have expressed their perspectives on the potential indirect repercussions of armed conflicts on neighboring nations. These consequences might arise due to several variables, including geographical proximity, the extent of shared borders, historical relationships shaped by politics and colonization, parallels in governance structures, as well as ethnic and historical connections, among others. (Murdoch and Sandler 2002; De Groot 2010; Parlar 2016)

Expanding upon the established hypotheses proposed by (Murdoch and Sandler 2002), the present study posits that a significant correlation exists between the direct repercussions of conflict on a nation's food security and the indirect consequences of conflict on neighboring countries. Both mechanisms follow the same pattern, but with the addition of a key distinction: the presence of two separate states in the indirect impact.

At the outset of a conflict, it is widely acknowledged that internal conflicts within a nation result in the devastation of its infrastructure. The destruction of infrastructure results in a significant disturbance to established trade relations. The disruption of trade relations which arises from the conflict within the country, consequently, results in a decrease in the quantity of food exported from the conflicted nation to its neighboring countries. The receiving country may experience a decrease in the accessibility of imported food, particularly if it heavily depends on the conflict-affected country as a source of food. As a result, the decrease in the accessibility of imported food results in shortages and scarcity of available food. The presence of shortages and limited availability of food results in an inherent disequilibrium between the demand and supply curves. This disequilibrium is characterized by a decrease in the supply of food, while the demand for the available food either remains constant or experiences a surge. The disparity between the supply and demand curves results in two

consequences: firstly, an increase in the prices of accessible food items, and secondly, the elevated prices render these items unattainable for the vulnerable population.

The mechanism thus entails that armed conflict results in the destruction of agricultural and transportation infrastructure, thereby leading to a disruption in the trade relations between two countries. Consequently, the disruption in the trade and food supply chains between the involved countries creates an imbalance in demand and supply curves of the receiving country, leading to increase in food prices and by so making it inaccessible to vulnerable populations in the receiving country.

H2a: The presence of armed conflict within a nation causes a disruption in the trade relations with neighboring countries resulting in a decline in food availability and accessibility of the neighboring countries.

According to the theoretical framework proposed by Murdoch and Sandler (2002), there exists a positive relationship between the length of borders shared by two countries and the likelihood of experiencing negative spillover effects of conflict from one another. This study expands upon this established theoretical framework to investigate the potential occurrence of a refugee movement as a pathway to food insecurity in a nation that shares borders with another country experiencing armed conflict.

When confronted with conflict, individuals are compelled to evacuate their residences in search of more peaceful environments. Individuals residing in the border region, where the conflict is geographically situated, exhibit a higher propensity to seek refuge in the neighboring country with which they share a border, to ensure personal safety and security.

The implication of such a substantial migration from one country to another is that it may lead to a scarcity of food resources. This can be attributed to two factors: firstly, the increase in population resulting from the migration, and secondly, the lack of equilibrium between the

available food supply and the number of individuals, as required by the Food and Agriculture Organization (FAO) for ensuring food security.

When the population surpasses the available food supply, an imbalance occurs, leading to the occurrence of food insecurity. The laws of demand set in, as the availability of a food products decreases, its demand increases, and this increase in demand inevitably results in a rise in prices. This increase in the price of food, not only affects the citizens of the country hosting these refugees but also the refugees who have been displaced from their homes, lacking sources of income, and limited or no access to financial resources. The increase in prices leads to food inaccessibility in the host country.

Summarily, the occurrence of conflict triggers a significant influx of individuals across borders in search of safety. This influx subsequently disrupts the equilibrium between the available food supply and the population, resulting in a scarcity of food resources. Consequently, the scarcity drives up the prices of available food, rendering it unattainable in the receiving country. The persistent interplay between the factors of limited food availability and inadequate access can result in food insecurity within the recipient nation.

H2b: The presence of armed conflict within a particular nation causes a rise in cross-border migration from said nation to a neighboring country, consequently leading to a decline in food accessibility within the receiving nation.

For this research four causal mechanisms will be explored. To test the direct impact of conflict in a country on the food insecurity of the same country, the panic buying and stockpiling effect, and the destruction of infrastructure essential for food security will be explored; hypothesis two will explore which is the indirect effect of conflict in one country on the food security of a neighboring country, the destruction of transportation infrastructure and established trade routes, and the refugee migration effect due to conflict will be explored.

Causal Mechanism 1: During times of war, stockpiling and panic buying lead to a disparity in food resource allocation, particularly for vulnerable populations. This phenomenon, triggered by the bandwagon effect, increases demand for food products, leading to a depletion of existing supplies. Suppliers struggle to meet this demand, disrupting supply chains and causing delays in restocking and distribution. This leads to increased food prices and decreased affordability.

Causal Mechanism 2: Conflicts can lead to the destruction of agricultural and transportation infrastructure, affecting local production output and food availability. This destruction reduces agricultural activities and deteriorates the environment and requires time for restoration such as the reconstruction of irrigation systems. In addition, the destruction of transportation and established routes undermines these systems. Transportation routes are crucial in the food production value chain, allowing transit of food and agricultural products to markets and consumers. However, obstructed or limited transportation routes can hinder access to marketplaces, causing an escalation in food prices and hindering people's ability to obtain it.

Causal Mechanism 3: Armed conflict results in the destruction of agricultural and transportation infrastructure, thereby leading to a disruption in the trade relations between two countries. Consequently, the disruption in the trade and food supply chains between the involved countries creates an imbalance in demand and supply curves of the receiving country, leading to increase in food prices and by so making it inaccessible to vulnerable populations in the receiving country.

Causal Mechanism 4: Conflicts lead to a large-scale migration of people across borders in quest of safety. There is a shortage of food resources as a result of this inflow upsetting the balance between the population and the available food supply. As a result, food becomes more expensive due to scarcity, making it unaffordable in the recipient nation. The recipient country

may experience food insecurity because of the ongoing interaction between the elements of insufficient access and limited food availability.

CHAPTER 4. METHODOLOGY

Based on the proposed hypothesis, this study adopts a confirmatory deductive approach to empirically test the hypothesis. The research design involves a targeted examination of specific observations and data in order to validate the hypothesis. This investigation adopts a positivist perspective. The rationale for this choice is the need to examine the impact of armed conflict on a nation's food security, which entails the existence of an unavoidable reality that exists independently and can be objectively observed by any researcher.

4.1 Comparative Case Study

The research will employ a multiple qualitative case study design. This study entails a comprehensive exposition and examination of the progression from armed conflict to food insecurity, employing specific instances as illustrative examples, and the chosen analytical approach for this investigation is process tracing.

The design employed in this research are deemed highly suitable due to the nature of the available data. Although there exists a sufficient amount of quantitative data to demonstrate a correlation and variability between armed conflict and food insecurity, it is insufficient for testing the hypothesis and establishing the causal mechanism. Therefore, the research is resorting to employing multiple qualitative case studies and process tracing techniques.

A case study is a comprehensive investigation conducted on an individual, a group of individuals, or a specific entity, with the purpose of drawing broader conclusions that can be applied to several entities. However, instead of concentrating on individual instances, in a multiple case study design, the focus is directed towards multiple occurrences. (Gustafsson 2017).

The study however will focus on the retrospective multiple case study which according to (Starman 2013) is the simplest kind of case study research and involves gathering information about some phenomenon that occurred in the past. The researcher is examining a phenomena,

scenario, person, or event in their entirety as it occurred in the past. This research will focus on selecting cases of conflict occurrences that have occurred in the past as the criteria for study. Each subsequent incident that unfolded as a consequence of the conflict will be thoroughly analyzed.

The justification of the use of multiple case studies as appropriate for this research lies in various reasons. Most essential is the fact that for every particular example that will be picked for research, the method allows for the operation of causal processes in detail. They analyze several potentially confounding factors inside a single instance to inductively discover any anomalous behavior in the operation of a given causal mechanism or to determine which circumstances in the case trigger the mechanism in question. In addition, each cases selected will enable the researcher measure for conceptual validity of the variables in the research. Conflict, food availability, and food accessibility are variables that may be difficult to measure but with the use of case studies, contextualized comparison which refers to the process of automatically searching for analytically identical phenomena, even when they are expressed using different language and in various settings, is possible and achievable.

Furthermore, the use of a multiple case study design will facilitate the researcher in comprehending both the distinctions and the resemblances among these individual cases, as well as in analyzing the data within each individual case and across all cases. Multiple case studies can yield divergent outcomes according to anticipated factors or yield comparable outcomes throughout the studies. By doing so, the researcher can ascertain the worthiness of the findings. (Gustafsson 2017).

In addition, the use of multiple case studies has the capacity to handle intricate cause-and-effect relationships, such as equifinality (Starman 2013). Equifinality refers to the capacity of a single phenomenon to generate identical outcomes or effects through many processes and channels.

Put simply, we can reach the same conclusions about the relationship between conflict and food inaccessibility or food unavailability by taking several or multiple routes. Each hypothesis in this research is accompanied by a minimum of two proposed causal processes to establish a connection between conflict and either food unavailability or food inaccessibility. By employing multiple case studies as a design, the study aims to validate the suggested causal pathways and potentially uncover new ones in the cause of research. By uncovering new causal pathways as anticipated, it will further demonstrate that human behavior is not subject to prediction based on rules or theories. Consequently, this approach will contribute to the establishment of varied and unique perspectives on reality.

4.2 Case Selection

For this research three cases have been selected in order to test the proposed causal mechanisms. Two cases are for the direct impact hypothesis while the last case is to test the indirect impact hypothesis. These cases were deemed suitable for this investigation due to two major justifications, the presence of conflict in these regions and secondly, the unlikelihood firstly, the conflict in those areas has been protracted, for at least seven years. Furthermore, all the indicators of conflict are evident in these regions. These conflicts have recorded casualty counts exceeding 1000 fatalities since their inception, with several others sustaining injuries and hundreds of thousands being displaced from their homes due to the conflict.

Additionally, the communities under study fall within the food producing regions of the nation. Benue state is officially tagged as the food basket to the federation, Plateau state produce approximately seventy percent of the Maize used and exported from Nigeria and Ogoja in Cross River state is responsible for the production of all varieties of green vegetables peculiar to Nigeria that is used in the country. Members of these communities engage in food production on a large scale not just for interstate trade but also for national export. It is assumed that food will not only be most readily available but also most affordable in these regions.

4.3 Description of Selected Cases

The Bokkos and Barkin Ladi conflict

The Bokkos conflict has its roots in the ethno-religious conflict that has plagued Plateau state Nigeria since in the early 1990s. For more than two decades, the Plateau State in Nigeria has seen recurring crises that might be likened to a genocide, mainly between the Muslim Fulani Herders and the Christian Farmers. Intercommunity conflicts, including both offensive and defensive actions, have been prevalent in both rural and urban regions for an extended period, although their intensity escalated notably in 2011, as a result of disagreements over land ownership and grazing rights between the herders and the farmers.

Several factors have been identified as the primary cause of this crisis. In 1994, the earliest recorded case of the Jos crisis, it is worth noting that the conflict and clashes were instigated by an unresolved dispute over the ownership of the Jos North Local Government area. The subsequent conflict, which resulted in numerous casualties, was believed to have arisen from the hostility that had been instigated between the indigenous ethnic groups and the Hausa-Fulani settlers. Both factions were resolute in asserting their ownership of the area. Subsequently, the crisis has encompassed several inciting factors such as politics, religion, unemployment, and occasionally without any discernible cause.

Since the occurrence in 1994, violence in Plateau State has escalated into increasingly lethal and premeditated assaults, occasionally linked to the feared Boko Haram and ISWAP terrorist organizations and has expanded throughout nearly every region of the state. Villages are frequently targeted for even minor reasons, resulting in the destruction of houses while people are sleeping inside at midnight. Additionally, individuals are abducted and exploited as bargaining tools during these crises. Women and children are killed, women are subjected to rape and murder, and both churches and mosques are not spared from the violence. Schools and marketplaces are also systematically destroyed. The cycle has been relentless thus far.

However, On the eve of Christmas 2023, over 115 individuals were confirmed dead in attacks by gunmen on communities in Bokkos and Barkin-Ladi LGAs of Plateau. The gunmen initiated the assaults on residents of the two LGAs, including Mangu, around 10 pm on Sunday. An assessment of the incidents in Bokkos LGA revealed that twelve villages were attacked, 221 houses were set on fire, 27 motorcycles were burnt, 8 motor-vehicles were destroyed, and more than 79 individuals were killed. Additionally, 17 deaths were reported in Barkin-Ladi LGA. The attacks were thought to be in response to suspected cattle theft committed against Fulani Herders. An advocacy group representing the Fulani herders association, Miyetti Allah (MACBAN), reported that three cattle breeders were killed the day before the attack on Bokkos community and its surrounding areas on December 23, 2023. Additionally, there was an attempt to steal 181 cows, and 130 houses were burnt in various Fulani villages in the early hours of December 24.

Otukpo Massacre

On February 17, 2024, at least 13 individuals were murdered by suspected armed herdsmen in Iwili community in Umogidi Ward and Entekpa community, both located in Adoka District of Otukpo Local Government Area (LGA) in Benue State. The last incident is one of a series of strikes that have been occurring in the area since November 2023, gradually increasing in frequency. The conflict is domiciled within the Benue South Senatorial District, which includes three local government areas: Otukpo, Apa, and Agatu. Over 200 communities' residents are being targeted everyday by highly armed herders wearing military camouflage. Within three months, more than 500 lives have reportedly been lost, and thousands of others have been driven from their homes and means of livelihood.

The conflict between the killer herdsmen and the indigenes in Nigeria stems from long-standing land resource disputes and climate change related factors, which contribute to the fights between farming and herding communities. Although these elements continue to be important

in comprehending the connection between these two factions, current catalysts demonstrate the ever-changing nature of the conflict and the distinct characteristics of the crisis in various regions. Of greater significance is the reaction of the herding communities, who resorted to aggressive assaults on farming villages following the enactment of the anti-grazing bill in Benue state in May 2017 and further amended it in January 2022. Tade, O. (2020). The state administration enacted the law as a measure to mitigate the conflicts between herders and farmers. One of the provisions of the law is the restriction of the transportation of cattle by walking inside the state.

The amendment of the anti-grazing law, which has been made more stringent, was necessary due to the significant loss of lives resulting from the ongoing conflict between farmers and herders. This conflict has claimed over 10,000 lives since its beginning. The amendment is a crucial step towards reducing this deliberate violence against farming communities. The conflict can be attributed to the expansion of the population, which has led farmers to demand more land for agriculture to meet the needs of the growing population. On the other hand, herders argue that farmers are encroaching on their grazing lands, which were originally designated for their use.

The Ambazonian Crises

Cameroonian soldiers launched a three-day, multi-front offensive against the Ambazonia Defence Forces (ADF) in the Batibo area on July 31 2022. The Cameroonian army successfully eliminated two separatist combatants, identified as "Colonel John" and "General Rasta," along with 15 other ADF soldiers in Bambui. Furthermore, reports indicate that 18 other fighters were apprehended by the Cameroonian forces. According to the Cameroonian Army, eleven of its personnel sustained injuries during the operation, although the ADF asserted that they had eliminated "at least twenty-four" soldiers. Local witnesses provided accounts of casualties in both factions, including civilian fatalities.

The conflict between the Cameroonian forces and the Ambazonian Defense Forces can be traced back to 2016-2017 after the Cameroonian authorities forcefully ended the protests of the Cameroon Anglophone Civil Society Consortium, a coalition comprising trade unions of lawyers and teachers in the English-speaking regions. Their protest was in opposition to the appointment of judges who spoke French as their first language in the districts where English is predominantly spoken. They perceived this as a menace to the common law system in the Anglophone regions, as well as a component of the overall exclusion of English-speaking Cameroonians.

After the Cameroonian authorities forcefully ended the protests, separatists in the English-speaking regions, previously referred to as the Southern Cameroons, initiated a guerilla campaign and subsequently declared independence. In a span of two months, the Cameroonian government initiated a declaration of war against the separatists and deployed its military forces to the Anglophone areas. Commencing as a small-scale insurrection, the conflict rapidly expanded to encompass most of the English-speaking regions within a span of one year. By August 2019, the government had established authority over the main urban areas and certain rural regions, although the Ambazonian nationalists maintained their presence in several rural areas and frequently made appearances in the larger towns. At times, separatists have conducted incursions into the adjacent French-speaking areas of Littoral and West. The battle has resulted in the deaths of thousands of individuals and has caused over half a million people to be displaced from their residences.

The conflict has also led to the spiral and beginning of other minor conflicts within the territory under contention. Barely a month earlier, on the June 24th 2022, a group of armed persons from the nearby hamlet of Oliti perpetrated a massacre in the village of Mesaka in Akwaya, resulting in the fatalities of at least 26 indigenous people and six Nigerian citizens.

The war, lasting for a brief period, was reported to be a retaliatory act by the Otili village against the people of Mesaka, stemming from an inter-tribal clash between the two villages over a land dispute. On April 29, the Messaga Ekol tribe members of the Otili hamlet were ambushed and killed in their fields, as stated by an eyewitness testimony, by people suspected to be from the Mesaka Village in Akwaya.

Subsequently, the Otili community organized and enlisted the assistance of mercenaries, who initiated a series of exceedingly brutal, inhumane, and lethal assaults against the the village of Mesaka in Akwaya. The response sprang from a long-standing inter-communal conflict that has persisted in Akwaya for years. The Otili, residing in the central region of Akwaya, frequently fall prey to assaults from neighbouring communities, and their act of retaliation precipitated the occurrence of the massacre. By late December 2021, a total of 44 individuals had lost their lives and 111 others had sustained injuries during a period of two weeks in the Far North region. This region is situated between Nigeria, Chad, and Niger, and is known for experiencing somewhat frequent conflicts on both sides of its borders.

The Akwaya region, located in the North-West and South-West regions, is the area that the Ambazonians have been vying for, for more than five years. This tribal dispute that resulted in the incident does not have a fundamental cause, but the unrest in this area can be attributed to unresolved concerns stemming from pre-colonial periods.

The Ambazonian separatist struggle has further extended to the present day, for instance, during his New Year speech on January 1, 2023, President Paul Biya of Cameroon declared that the Cameroonian army had successfully quelled the uprising of the separatist Ambazonian forces. The news prompted the separatist organisation to impose local lockdowns in the towns of Oku, Kakiri, and Kumbo in the Northwest area of the country.

As a result of the lockdowns, the Cameroon Armed Forces dispatched a large number of troops to Oku, Kumbo, and Jakiri in the Northwest Region, and they asserted that they eliminated 11 members of the rebel organization. The Ambazonian Defense Forces (ADF) declared that the separatists had extended their control over more territory and affirmed that they were not ready to back down on their struggle until their purpose had been achieved.

4.4 Process Tracing

Process tracing is the technique that methodically investigates evidence that is chosen and processed in consideration of research questions and hypotheses presented by the researcher. In other words, Process tracing is an analytical technique used to make descriptive and causal conclusions based on information, which is typically seen as part of a chronological series of events or occurrences. (Collier 2011).

This study, along with numerous other experts, affirms the existence of a correlation between conflict and adverse geographical spillover effects between two countries, particularly those that have a common border, and these spillover effects encompass both food inaccessibility and food unavailability. Nevertheless, the method by which these issues of food inaccessibility and food unavailability arise has not been well established, and this is where process tracing plays a crucial role. Process tracing is a useful method for creating a clear connection between the independent variable, conflict, and the dependent variables, food inaccessibility or food unavailability, by establishing a causal chain. Methodologically, process tracing will offer the detailed and systematic approach to understanding the specific steps and components involved in explaining how conflict in one country can cause food unavailability or food inaccessibility in another country based on mechanisms. By meticulously following the process in a precise manner that is informed by theory, it will be easy to identify a sequence of theoretically anticipated intermediary stages.

The use of process tracing as a methodology for this research appears rational and is supported by the fact that this approach is not only more effective when dealing with multiple case studies, but also aligns closely with the aims of a multiple case studies design.

In this research, the method of process tracing will be utilized by a first step which involves the selection of pertinent cases, and which has already been completed at this stage. The chosen cases for hypothesis testing were restricted to instances of conflict in two specific nations, Nigeria and Cameroon, from 2022 up to the present time. These scenarios will facilitate the analysis of the causal mechanisms previously outlined in this research.

The primary source of data for analyzing causal mechanisms will be obtained primarily through in-depth one-on-one interviews. This will be supplemented with material derived from newspapers, online news stories, and documented events of conflicts sourced from the Armed Conflict Location and Event Data Project Database. The evidence obtained from the interviews will serve to either corroborate or undermine the causal connections between conflict and the lack of available or accessible food in each individual case.

For each interview, the responses will be initially classified into broad concepts and labels using open coding. Subsequently, these labels and broad categorizations will be further modified into specific themes through axial coding. This process will specifically reveal the patterns that trace the connection between conflict and food inaccessibility or food unavailability.

Process tracing is considered appropriate for this research for several reasons but most importantly is the fact that is most complimentary for the research design employed in this study, multiple case studies. (Kay and Baker 2015). “Hypothetico-deductive study designs, such as correlation, counterfactual, and experimental study designs” (2015, 3) can provide valuable information about the cause-and-effect relationship between variables. However, the

specific mechanism of causality often remains unclear and is referred to as an intervening variable. Therefore, process tracing is valuable for identifying the underlying factors that may lead food unavailability or food inaccessibility in the presence of conflict.

Table 1 : Summary of Selected

Hypothesis One						
S/N	Case	Location/Region	Date	Timeline	Casualties	Summary
1	Bokkos and Barkin Ladi Conflict	Plateau State	24th December 2023	23rd to 29th December 2023	Over 118 fatalities, 5,000 displaced, 221 houses burned, 27 motorcycles destroyed, 8 motor-vehicles destroyed	Attack by gunmen on communities following suspected cattle theft, resulting in casualties, displacement, and destruction of property. Farmers unable to access farmlands and harvest crops.
2	Otukpo Massacre	Benue State	February 17, 2024	November 2023 - February 2024	Over 500 lives lost, thousands displaced, recurring attacks increasing in frequency	Suspected armed herdsmen kill at least 13 individuals, escalating conflict causing loss of lives, displacement, and instability in the region.
Hypothesis Two						
1	The Ambazonian Crises	North-West and South-West regions of Cameroon	July 31st, 2022, June 24th 2022	Ongoing since 2016	Thousands dead and half a million displaced	Cameroonian army offensive against Ambazonia Defence Forces, leading to casualties, displacement, and escalation of conflict.

CHAPTER 5

DATA ANALYSIS

5.1 Introduction

At the inception phase, my approach commenced with reaching out to individuals within my existing network who were residing in the specified regions under scrutiny or possessed affiliations with said regions delineated in the case study, to assist in the recruitment of participants for the interview process. Furthermore, certain prominent figures within organizations such as the United Nations High Commission on Refugees (UNHCR) and the National Commission for Refugees, Migrants, and Internally Displaced Persons (NCFRMI) were also engaged through their LinkedIn and Twitter profiles, subsequently contributing to the recruitment endeavour and actively engaging in the interview proceedings. Additionally, a few participants facilitated the process by providing contact details of individuals who were also included in the sessions, thus expanding the network of interviewees. After the recruitment phase, a total of 56 individuals expressed their willingness to participate in the interviews; however, upon the conclusion of the entire interviewing process, only 12 individuals were ultimately interviewed. The interviews were In-depth and semi structured. There was already an interview guide designed based on the hypothesis the research seeks to clarify, however the sessions were not strictly dependents on the interview guide. The questions allowed for flexibility and further probing depending on the answers of the participants. The sessions which were conducted virtually using the google meet platform, were recorded for reference purposes, and took an average of 45 minutes for the sessions. The entire interview transcripts resulted in 36,029 words and totaling into 330 minutes.

Table 2. Summary of Interview Participant

S/N	Gender	Category	Case
1	Male	Local Resident	Otukpo Massacre
2	Male	Local Resident	Otukpo Massacre
3	Male	Local Resident	Otukpo Massacre
4	Male	Local Resident	Bokkos and Barkin Ladi
5	Male	Local Resident	Bokkos and Barkin Ladi
6	Male	Local Resident	Bokkos and Barkin Ladi
7	Male	Local Resident	Bokkos and Barkin Ladi
8	Male	Local Resident	Bokkos and Barkin Ladi
9	Female	UNHCR staff	Ambazonian
10	Male	Refugee/Local Resident	Ambazonian
11	Male	NCFRMI/Local Resident	Ambazonian
12	Male	Local Resident	Otukpo Massacre

A list of labels was generated using open coding techniques with the assistance of ChatGPT 3.5 and You.com. (details of the entire process and the prompts used are available in the Appendix) The interview text data was inserted into the chat box and subsequently presented with a prompt, instructing it to proceed with coding the data using a line-by-line open coding approach in order to derive a comprehensive list of labels. This identical methodology was implemented within the You.com Ai platform, thus enabling a comparison of the outcomes generated by both platforms as a means of validating the process. Subsequently, the results were meticulously examined and manually organized to ensure the harmonization of the labelling process.

This process was inspired by several studies that have used Chat GPT in the analysis of their interview data. For instance, through the comparison of emergent themes in qualitative analysis conducted by humans and AI using interview data, (Hamilton, Leah, Elliott, Quick, Smith, and Choplin 2023) discovered that there are not only similarities in the codes generated by both parties, but that AI recognized themes that the humans did not and vice versa. They further assert that AI, such as ChatGPT, offers a potent instrument to enhance intricate human-centric tasks, and anticipates that these tools will serve as supplementary aids to facilitate research efforts. Furthermore, in narrative psychology, (Koch 2023) substantiates the efficacy of AI and chat GPT in the examination of qualitative data by employing the AI to analyse 114 interview data sets comprising 38 Germans, gathered at three distinct time intervals.

In this study, twenty-one codes were developed for the entirety of the data sets. Out of these codes, seventeen were found to be significant to the proposed hypothesis and were then utilized in the analysis. The research yielded six overarching themes, with three themes identified for each hypothesis. The axial coding approaches were utilized to develop these themes. Codes that were pertinent and had related interpretations were categorized and classified under a single theme. The subsequent sections of the analysis will provide a comprehensive description of the codes employed and the themes that emerged.

5.2 Direct Impact

This analysis section specifically examines the interview data obtained from participants involved in the Otukpo massacre and the Bokokos and Barkin Ladi disputes. Based on the acquired data, a total of twelve codes were utilized from the data sets, resulting in the identification of four prominent themes that are pertinent to the postulated causal mechanisms.

Displacement

The initial impact of the conflicts and cases examined was the displacement of individuals from their residences, resulting in overcrowding in the communities where they sought refuge. In the two selected cases used to test the hypothesis and in accordance with the collected data, individuals are primarily concerned with their security at the onset of the conflict, prompting them to flee to safer regions. This recurring theme was identified through four specific codes in the data, namely migration, homelessness, congestion, and indications of a potential attack.

Migration is the relocation of individuals from one location to another, resulting in a shift in their typical living environment. Individuals migrate across borders, whether within their own nation or between different countries. Migration is typically transient but can also be permanent. People migrate for various reasons such as better living standards, economic opportunities, social, political, environmental, familial, and relationship factors. Migration in the context of the data collected and as a code captured all the conflict induced movement and people who had to move from their usual places of habitation to another in search of safer climes. Participant 1 revealed that: *“the district where I live has the same border with the district that was attacked, I called the pastor to find out whether they were affected. he said yes, that in that village right now there is nobody there”*, while Participant 3 had this to say *“And people, at that time, people left their homes, people ran away from their homes, some of them went to where the soldiers are and then stayed there for a while. Most of the people left the community for good. Right now, we have only few people are in the community. Construction work is supposed to be ongoing, but nobody is there working because of this crisis. Now, some of the people have left, they ran away from their houses, and some left their businesses, they left their farm produce and then ran away down to neighbouring communities to stay because of this recent attack”*.

Homeless people are those who do not have a stable, consistent, and sufficient place to stay at night. Individuals experiencing homelessness may reside in temporary shelters like emergency shelters or transitional homes, or they may sleep on the streets, in vehicles, or in other locations not intended for human habitation. The code Homeless people may seem similar to migration however it is important to note that people can migrate and not be homeless. Some of the people moved to other towns where they had to stay with their relations while some could be homeless but not migrate. In this research the code for homeless people is all those who for the reason of the conflict no longer have stable and consistent places to stay at night. For instance, Participant 1 revealed that the streets were overflowing, people slept on the roads and even in unfinished buildings without any form of protection, in places completely inhabitable for people. *“The Local Government Council center, which is the Headquarters of the district, if you go to primary schools, uncompleted buildings, people are packed full there”*

Congestion on the other hand is the effect of both migration and homeless people. It is the state of being overcrowded or densely populated, typically in a specific geographic region or metropolitan environment. Overpopulation in a limited area can lead to congested roads, housing shortages, increased pollution, decreased quality of life, and challenges in providing essential services like healthcare, education, and public safety. In this study, congestion is defined as a situation where communities undergo a rapid increase in population, beyond the customary capacity, leading to irritation and discomfort for both existing residents and newcomers. Participant 5 Revealed that *“Both the people with their houses and the people that, other people running from the village come to stay with them. I think we are just feeling the same way. We are squatters”*. Participant 1 said that he *“can predict that there are over 4,000 new people in my community as of today”* and participant 8 said that *“they had to rent homes, they had to rent apartments and some of them were jam-packed in one room. There was just*

mass movement of people from the villages to the local government headquarters and to the state capital. That was where they sought for asylum”.

Finally, the indications of a potential attack as a code captured the responses of participants on the information they had and intelligence reports about the possibility of an attack. Participant 7 revealed that *“there were hints, security information that they may likely attack some communities. So unfortunately, some of the communities we thought may be attacked were not the ones attacked”* and participant 3 revealed that nomadic livestock herders scouted their villages under the guise of grazing greener pastures, and that community attacks usually follow a few days later. Over time, this grazing became a signal for an imminent and usually immediate attack.

The different ways in which these codes function and their interaction with one another indicate displacement as a prevalent theme. The available data provides evidence indicating that displacement may occur because of individuals migrating or experiencing homelessness due to conflicts that arise. It is worth noting that the phenomenon of homelessness can manifest independently of migration, particularly in instances where individuals find themselves homeless as a direct consequence of their residences being decimated by conflict. Conversely, homelessness can also emerge because of migration, wherein individuals are rendered homeless as a result of being compelled to vacate their homes due to conflict-related reasons. The intricate interplay between these dual factors, coupled with the awareness of the potentiality of an attack, serves to significantly heighten the complexity of the situation. For example, the participants in the study acknowledged the looming threat of a possible attack on their community yet opted to remain in place until the actual occurrence of an attack. Residents and indigenes have become accustomed to these conflicts and its occasional occurrences that a threat of a potential attack no longer triggers a need to migrate to safer climes. In the event that they migrate due to the actual conflict, they most certainly return to their homes and

communities even when there is nothing to come home to, they know there is a possibility of being attacked again in the future they return and stay, to start all over again, rebuild their homes and continue their lives as farmers, pending the next attack.

Because this forced migration is not based on a foreknowledge of a potential attack, there is no meticulous planning such as securing accommodation and ensuring the access to essential resources especially during the initial months in the unfamiliar environment, and it consequently leads to overcrowding and congestion of the communities and towns that these residents move to especially for that period.

The synergistic interplay of these various scenarios, foster the emergence of displacement. Individuals possessing knowledge of a potential attack opt not to migrate until compelled to do so by the conflict are at a heightened risk of experiencing homelessness and inadvertently causing strain on the host communities they eventually relocate to.

Grounded Agricultural Activities

The second prevailing theme for hypothesis one, which has been derived from the data gathered, is the Grounded Agricultural Activities. This theme like the displacement is also a direct impact of conflict and refers to a state in which all the various factors that contribute to the production of agricultural products within a specific locality experience a cessation or halt. This theme emerged from the interaction of three major codes in the available data, insecure farm routes, attacks on farmers, and destruction of farmlands.

Insecure farm routes are predominant in parts of the community that do not enjoy some form of security provided by the government. At the onset of conflict, some participants revealed that sometimes, due to the volatile nature of the areas and the protracted nature of the conflict, some areas within a particular community have stationed military presence of prompt military response to help bring sanity to such areas. However, not all parts of the community privileged

to have this experience. In the offset of war, people migrate from the areas of the community with less security presence to the areas with security, and this leaves the outskirts of the community which is usually where the farmlands are located insecure.

The code encapsulate and document all the participants' experiences traveling to and from the farm before, during, and after the events. Although this aspect was not frequently acknowledged, certain participants alluded to and insinuated that this constituted an issue. For instance, Participant 6 mentioned that *“transportation to other parts of the town was still possible, but there are exceptional cases whereby people go to their farms and were attacked”* while participant 7 implied that the routes to the farm were unsafe *“because the people are afraid to go back to their communities, they are afraid to go back to their farms because there's this likelihood of attack either on their way to farm or in the farm”* In addition Participant 5 opined that *“mostly people would tend to avoid crisis-prone areas, even when they heard that the place is calm. People would still be afraid, thinking that anything can happen”*.

Attacks on farmers captured all the incidents that involved the experiences of farmers who brave it to go back to their farmlands but get attacked in the process and in some extreme cases never make it back. Participant 3 shared that there are *“situations like these have occurred whereby members of the community warn certain people not to go to their farms, that they have seen herders around that area. Those persons will still go there and at the end of the day get killed”*. Participant 1 shared an experience that occurred just few days after the major attack on neighboring communities *“a man went to his farm with a labourer, his son, and his wife, got the labourer to help them harvest yams. They finished working on their way back. The labourer was killed, the owner of the farm was killed, his son escaped, his wife was beaten mercilessly, and they allowed her to go”* and Participant 6 also confirmed that *“there are exceptional cases whereby people go to their farms and were attacked. their houses and so the bushes around have become a hideout to the attackers”*.

The code regarding the destruction of crops comprises of the replies from participants focusing on how the farmlands were devastated and rendered unusable for crop production. Within this code, participants revealed two major ways of farmland devastation by the attackers. Firstly, there is the act of grazing on the farms by the herders and their herds, especially after they have finished harvesting the crops for themselves. For instance, Participant 5 rightly captures it by stating that, “*some were even grazed on by the cattle, not just grazed on, some were harvested by these marauders*”. Secondly, there is the deliberate burning of these farms, particularly when the attackers become aware that some or all of the crops have already been harvested. Participant 4 stated that “*they come, they burn your entire farmland, and then a whole item, they can go to your farm like this and just destroy a complete farmland, complete like this*”

Despite the fact that displacement is highly probable as the initial reaction to the eruption of conflict, it is worth noting that existing data also indicates that engaging in agricultural activities on the ground can emerge as a primary response to such conflict scenarios. The occurrence of grounded agricultural undertakings is observed among individuals who have not been displaced, either because of the devastation of their residential premises or the prevailing sense of insecurity within their community. The responses from the participants showed while some people are displaced because of the severity of the conflict in the area they live in, some other within the same community do not experience such effects. This particular group of individuals comprises those whose community promptly benefits from a semblance of stability through the presence of military forces. Nevertheless, it is important to highlight that a significant military presence does not always guarantee absolute security, given that such military deployments frequently concentrate on economically vital areas or regions with a higher density of human population. Consequently, the outskirts of towns and communities often remain relatively unsafe. Interestingly, the farmlands belonging to these farmers are typically situated in the peripheries of these unsafe zones, a crucial factor that triggers the

initiation of grounded agricultural practices. The pathways leading to the farms and the actual agricultural plots become perilous for conducting farming activities, as evidenced by reports indicating that some farmers have fallen victim to attacks either while commuting to or from their farms, or even while working on their land. Moreover, the absence of a visible military presence in these outlying areas has exposed certain farmers to the risk of having their crops stolen from the fields, and in certain instances, their produce has been damaged or consumed by grazing animals, rendering them unsuitable for harvesting. In more severe situations, these farms have been deliberately set ablaze in acts of retaliation by herdsmen. In scenarios where farmers summon the courage to venture into their farms despite the prevalent insecurity, they are often met with the disheartening reality of finding their farmlands destroyed and devoid of any viable produce to harvest. While it is true that each of the aforementioned factors can independently contribute to the initiation of grounded agricultural activities, it is imperative to acknowledge that the realization of such endeavours hinges on the seamless collaboration of all three factors in unison.

Food Crisis

The third dominant theme is food crises. A food crisis is defined as a circumstance in which a particular community or region lacks the necessary sustenance and agricultural produce to adequately nourish its population, ultimately leading to the development of severe malnourishment. This theme inevitably arises as a consequence of displacement and grounded agricultural activities and emerged as a result of the interaction of three codes, market disruptions, supply instability and insufficient food stock.

Market disruptions as code captured all the response from participants on instances in which markets experience a temporary cessation in their operations or deviate from their usual schedule. In the data, markets were shut down for two major reasons, first as a precautionary measure to prevent possible attacks, as participant 6 puts it, *“the market was shut down. Yes,*

as a measure to prevent people from gathering in one place. Because there could be a possible attack. So, it would not be good for people to be away from their houses. You understand? So, the market was shut for like three weeks I think.” The second intention was to send a signal to the entire nation regarding the consequences of persistent attacks on these communities, which are entrusted with the crucial task of cultivating sustenance for the country. Participant 8 captures it by stating that, *“the women will protest and say no, markets won't be open so that the entire state and the nation as a whole can feel the impact”* Protests against government inaction to the conflict in these areas are common occurrences. This signal is important because it not only tells people in other regions dependent on these communities for food that there are crises and that there may be decreased supply from these areas but that this decreased supply is tantamount to increased prices. Having this information and prior knowledge of likely increased prices helps to prepare the mind of people for the actual increase in prices.

Supply instability as a code refers to the occurrence of unforeseeable alterations in products and materials within the market or supply chain. These fluctuations are brought about by a multitude of factors, including disruptions in manufacturing. This code, although not explicitly stated, was suggested indirectly by the participants and illustrated specific scenarios in which wholesalers and retailers expressed doubt and hesitation regarding the sale of their agricultural goods due to their uncertainty regarding the process of replenishing their stock. This uncertainty stems from three factors. The first is that harvest is low because many unharvested crops have been destroyed and grazed upon by herders secondly is the inaccessibility to markets and available stock due to the shutting down of markets for weeks, and finally is the burning of harvested crops store houses by the attackers Participant 6 revealed that this was an issue because, *“the person selling knows that for him to buy it too, he has some limitations, and then you, you are not getting new stock, you the seller”* and Participant 5 comment sheds light on the matter *“if things like this happen, even when you feel this normalcy within, people from*

outside will still be having that fear. so there are some of the goods that are not locally produced within us here. People bring them from other places. so such goods we are lacking in the market". Participant 4 also stated that *"during those attacks, some of these stores were burned down. the following day, people have to move down and get the remains of food items that are still in the store house, if eventually they find some.*

The last code insufficient food stock is an immediate consequence of supply instability. It further indicates a circumstance wherein the quantity of nourishment accessible is inadequate in order to adequately fulfill the immediate or prolonged necessities of a particular group of individuals. Within the data collected, this code appeared as a common experience of the participants, although varying is the extent of not having enough food products. Participant 6 revealed that because of the protracted nature of the conflict, temporarily accommodating people who are displaced occasionally has become a regular occurrence for him, and this translates to having more mouths to feed and cater for, however over the years this has become more difficult and further created food crises. Participant 3 aptly captures this concept in his comment, and stated that *"some of their relative and maybe neighbours may, because of the relationship they have, get some things from gifts from them, like package, like yam package. And so, people will be able to have foodstuff from these people, these farmers, to feed themselves and their family"*. This relief from other people have become almost nonexistent because according to participant 5 *"Some of those people that have their foodstuff locked in the store, don't no longer have access to them"*

Regardless of the first theme (displacement or grounded agricultural activities) in the process, these farmers inevitably and collectively undergo a period of food crises. The onset of food crises typically commences with a disturbance in the market system that is instigated by the conflict. In certain cases, the markets remain closed for extended periods, spanning weeks or even months. Such market closure served a dual purpose. It was sometimes enforced as a

security measure and as a form of protest by the women in the community against the relentless attacks and resulting deaths of their sons. Regardless of the rationale behind the market closure, the consequence is that local wholesalers and retailers are deprived of a platform to replenish their merchandise, resulting in a state of supply instability that fosters a growing sense of scarcity. As the market shutdown prolonged, such feelings of insecurity intensified. Moreover, some local merchants began stockpiling goods - given the high uncertainty of future supplies, which worsened the food availability to ordinary consumers. A violent conflict turned into a community-wide food. It is crucial to emphasize that at any stage within this sequence of occurrences - be it market disruptions, supply instability, or insufficient food reserves - the occurrence of a state of food crises becomes unavoidable, leading to a state of food unavailability.

Economic Implication

The final theme within this causal mechanism is the economic implication theme. This particular theme encompasses the implications that arise in the realm of economics as a consequence of the sequential outplay of the three previous dominant themes. It is characterized by the presence of two distinct codes, which serve to further elucidate and delineate the various aspects and nuances within this theme. The codes are limited or no exports, and increased prices.

Limited or no exports is a code that encompasses the range of responses offered by the participants in relation to the market dynamics on a broader level, extending beyond the confines of the specific community being studied, and extending to encompass both national and international contexts. As the name implies, it means that there were not enough food crops from local production for farmers to sell on a large scale within the country or even export as the case maybe, due to the low harvest and burnt store houses. Participant 8 states that for local production, *“we are envisaging this year is that the output is going to be extremely low. If it*

was 90 percent, it's going to be as low as 40 percent.” In addition, “For instance, we have three major markets that at least supply not less than 50 to 100 trucks of maize every week, but there may be shortages even in those places because the 50 trucks I was telling you about is not going to be as it were. Presently, even when you come to the market, you won't even see anything serious as in food products being exported, you won't even see anything serious. The exportation has been very low”

Increased food prices as a code were widely reported in the participant's responses. The phenomenon of escalated food crises not only manifested predominantly within the specific communities that were studied, but also exerted a far-reaching impact, extending its effects to various other regions of the nation. For instance Participant 1 stated that *“about two markets back, I went to the market in the morning before I even left the market the price of beans started increasing. In the evening the price will be different from what they sold in the morning. Even yams, this morning I bought yams from the market. Yams that should never be more than say 10,000. I bought it 22,500 it means one tuber is more than 1,000 Naira”,* from a place *“which is supposed to be a food producing community”* Outside the communities in crises, in other regions, *“buyers from other parts of Nigeria that come to buy, buy at very exorbitant prices, and of course go back to parts of where they come from, have a transportation cost and every other thing into the price that they bought those food items and then sell in order to make gains. Now I called, I spoke with a friend in a big city. In fact the reason why I went to the market today is that I used to help him buy goose, yams, rice, and other things like honey. Then he would spend the vehicle to take them to his city. I asked after the price of rice, he said that rice, a bag of rice is 80,000 in his city. And a bag of rice here is about 40,000, so it's almost double the price in his city, and other big towns.”* Participant 4 gave an insight into why the increase in the price of food stuff in these communities will lead to an increase in the prices of food in other regions and big cities of the country. He stated that *“in Bokokos local government it is the*

villages that farm more. In fact I can tell you that farming is 90% in the villages, so all the food that Nigeria is enjoying is coming from those villages”

The insufficiency of food resources within these communities has a significant impact on neighboring regions, as evidenced by data indicating that these communities serve as the primary local production center of food for the nation. It is observed that various trucks arrive from all corners of the country to facilitate the transportation of agricultural goods to other areas at a discounted rate. However, due to the prevailing food shortages in these areas, coupled with minimal availability of produce for commercial transactions resulting from damaged crops either in the fields pre-harvest or in storage facilities, these trucks, which arrive in considerable numbers, often return either empty or with a decreased quantity of goods than originally intended for purchase. This scenario according to available data leads to a situation where the cost of acquiring goods increases by over 500 percent, despite the actual quantity being acquired being 500 percent less than the intended amount. Consequently, in order to offset their increased expenditure and realize profits, it becomes a rational decision for the transportation entities to escalate the prices of food products.

5.3 Indirect Impact

This section examines the interview data obtained from participants with regards to the Ambazonian conflict. The participants ranged from Cameroonians directly involved in the conflict to Nigerians who are domiciled in communities that share borders with the Cameroon and government officials whose jobs require that they deal with those affected by conflict. Based on the collected data, three codes were relevant to this analysis and three themes relevant to the proposed causal mechanism emerged.

Forced Migration.

The first response of people in a community or region where conflict occurs is to flee for safety. In the case of some participants, they had to flee their country into the closest community into

another country to seek refugee or in some cases asylum. Forced migration was initially a code but evolved into a theme because of its position in the initiation of the entire process.

Forced migration occurs when individuals or groups are compelled to leave their homes or usual places of residence due to external factors beyond their control. These factors may include armed conflict, persecution, human rights violations, natural disasters, environmental degradation, or economic crisis. Forced migration is distinct from voluntary migration in that it is driven by compulsion or necessity rather than personal choice. In this study, I contacted one person who was forcefully migrated from Cameroon to Nigeria since the onset of the Ambazonian conflict. The participant's testimony revealed that the conflict within the Northern Cameroon was the first violent conflict of the degree ever experienced. Due to the nature of the conflict and that it was predicated upon agitations and grievances from people who believe they were marginalized, members of the separatist party were left with no option than to seek asylum in Nigeria. As the conflict progressed over the years, and the region became more volatile, people within those regions were left with no option than to migrate to Nigeria seeking safer climates especially immediately after fresh attacks. Participant 10 stated that *"Yes there are times, especially when there is a fresh incident. You know, attacks are ongoing in Cameroon. It's an everyday issue. But there are some severe attacks that happen at times that it affects a greater number of persons, the severity is such that the only option is for people to escape out of Cameroon. Every day. I can bet you that by the end of today, there will be one or two refugees who will come in"*. While another participant had this to share. *"Cameroon is the major, has the highest number of refugees in Nigeria because they all left because of safety, so almost all the time we have Cameroonians coming to Nigeria"*

Increased Demand

The second theme is the increased demand. Increased demand for goods and services occurs when there is a higher number of items and services that customers are willing and able to buy

irrespective of the price levels. Increased demand for a product or service can be impacted by several factors, including adjustments in customer tastes, population expansion, rising income levels, marketing strategies, changes in the prices of comparable commodities, or shifts in overall economic conditions. For this research and based on the responses of participants, increased demand is a consequence of the forced migration theme and comprises of three major codes: population size, refugee vulnerability and increased buying potential.

Population size as a code became relevant because even though it was not explicitly mentioned, all the participants indirectly indicated its importance. Population size, in the context of this study, pertains to the changes in population size within border villages, particularly in relation to the significant intake of forced migrants. The change in population size was as a result of the back-and-forth movement of refugees between Nigeria and Cameroon. In the words of participant 10 *“the truth is some usually escape and then they think that the situation is normalized, they go back. They will not even stay up to two months. They will rush back. And as was indicated by other participants, there is no steady population size in these communities, it changes based on the severity of the conflict in Cameroon. “So it’s, that influx is constant. Like you rightly guessed, it’s not, the number is not the same, it’s not constant, but there’s always an influx, but not the same, not to the same extent, based on what’s happening on ground”*

Refugee vulnerability can be characterized as the probability or likelihood of a refugee being subjected to exploitation within the host country due to their lack of familiarity and understanding of the local practices and customs, as well as their limited knowledge on matters such as the cost of essential items like food, goods, and services. This particular code effectively captured the responses provided by the participants, which pertained to the vulnerability of newcomers in the community and the potential for them to fall victim to exploitation until they have successfully navigated the process of acclimating to their new

surroundings and have properly settled in. For instance Participant 10 stated that *“So when there's an influx, the influx, and then most often, these refugees who just come in, they are yet to adapt to, you know, the eating habits of other refugees who have been here for some while, for a while to know the reason for them. So these ones who just come in, maybe they still have some support that their families give them to support themselves while they settle. So they easily are vulnerable to pay high prices. So it affects the general price of goods and commodities.”*

Increased buying potential is a direct result of refugee vulnerability. The concept pertains to the augmentation of an individual or collective entity's capacity to acquire goods and services, which can be attributed to various variables like income, enhanced financial stability, and advantageous economic circumstances. When an entity or collective attains enhanced purchasing power, they possess elevated levels of disposable income or financial resources that enable them to acquire products and services. This is subject to several influences, including but not limited to elevated income, enhanced work prospects, expanded credit accessibility, and improved economic circumstances that foster consumer expenditure. For the purpose of this research, increased buying potential is a code observed in all the participants, specifically in relation to the perception of the local community members who are actively engaged in entrepreneurial activities, towards the recently arrived individuals seeking refuge. Participant 10 stated that *“first of all, the community mostly the business people, they believe that they have more persons to sell their goods to. When, yeah, refugee influx means more buying potential to the business people”*. Another participant further explained that *“It affects everywhere, even the cost of rent, you know, the life, you know, the livelihood situation in the area goes up because there is influx. We have more people and people, partners are coming from right, left and center. You know, they are now beginning to have some market some shops where this people can buy some things they need, it was never existing before because when you sell those kind of things in those areas nobody will buy from you”*

The confluence of these three codes results in a heightened need for commodities and services within the local populace. People who are forced to migrate either do so temporarily or permanently depending on the rationale behind the movement. For residents of the regions afflicted with these crises, they usually migrate temporarily until the episode that resulted in their movement is contained and they move back to base. This movement however implies that there will always be fluctuations in the population size of the receiving border communities. This change in population size is perceived as an increase in the buying potential for the merchants in the community. Data revealed that within the first few weeks of their arrival, these refugees readily spend on food and other essential commodities, and this practice over time is what the receiving community has observed leading to the perception of increased buying potential at the influx of refugees. Due to the vulnerability of these refugees and their readiness to and actual spending contributes to the increase in demand of food items and general goods and services.

Increased Price

The final emerging theme within this causal mechanism is the phenomenon of heightened prices. Heightened prices, in this context, are a direct result of all the preceding codes and themes that have been discussed. The actual exploitation of the vulnerability of the refugees has a direct impact in the prices of food items and other essential commodities. As we delve deeper into the intricacies of this mechanism, it becomes evident that the occurrence of conflict in a neighboring country serves as a catalyst for a series of subsequent events, ultimately culminating in the amplification of food prices. Consequently, this exponential increase in prices renders food unaffordable and unattainable for a significant and susceptible portion of the population. A participant shared his experience, *“So prices go up, prices go up. So what we usually, food that we buy before for 300 Naira, maybe from a woman who has prepared food, now that same food will not be sold for 300 Naira, it's been sold for maybe 500 or 600 Naira.*

And that has been the experience, even within the refugee community. Other refugees usually prepare food and sell, Nigerians who are there usually prepare food and sell. If once there's influx, the moment there is influx, all the prices go up. And naturally, it means that if a family was able to buy 10 cups of rice prior to that moment, they might be able to buy only five. And that means that they shortage of food in their homes. That is something that is experienced every time there's an influx” another participant shared an insight explaining the reason for increased prices. “so when you are a trader and you're in the market selling maybe selling corn normally corn that you can finish selling in the net in one hour you find yourself selling it in five minutes because people are demanding for the natural Nigerian person who puts you know a price to it you know and um i would like you really say it will come down it doesn't really come down”.

CHAPTER 6. DISCUSSION OF FINDINGS

6. 1 Introduction

The spatial spillover effect of conflict on food security may appear to be quite evident at first glance, nonetheless, the process of pinpointing the precise causal mechanism that converts conflict into food insecurity is a considerably intricate and risky endeavour. Drawing upon the insights derived from previous scholarly works focusing on the spatial spillover effects of conflict on a different nation, various correlations have been identified and hypotheses have been formulated and examined to substantiate this claim; notwithstanding, the actual causal pathways remain undetermined. Although the sample size from which the data was collected was considered small, the outcomes of this particular study serve not only to validate earlier research efforts by establishing a causal link between conflict and food security but also to elucidate in a detailed manner the specific causal routes through which conflict progresses towards generating food insecurity within and beyond the confines of a nation, as well as provide meaningful insights that can be generalized in the conflict and food security studies.

H1: *The presence of armed conflict within a nation inevitably results in an adverse effect on the overall state of food prices and market accessibility/ food supply availability within said nation.*

Causal Mechanism 1: Conflict - Panic-driven purchases - stockpiling of food - increase in demand - disruption of supply chain - and increase in food prices.

Causal Mechanism 2: Conflict - Destruction of agricultural infrastructure - decline in local food production - disruptions in trade systems stemming from the breakdown of transportation infrastructure - rapid escalation in food prices.

Based on an analysis of the data presented in the preceding chapter and a comparison with the postulated causative pathways, several conclusions can be drawn. It can be depicted that there are no instances of panic-driven purchases resulting in the accumulation of food. Additionally,

the interruptions in trade networks are not caused by transportation breakdowns, but rather by other variables that have been identified in the research. While the causal pathways proposed in this study were largely supported, the specific order it was proposed varied in the data collected. Consistent with the aforementioned proposition, two causal processes were identified based on the gathered data, exhibiting nearly identical characteristics with the exception of the initial impact of the conflict.

Contrary to the proposed causal mechanism, it is evident from the available data that individuals tend to initially prioritize their sense of safety when faced with conflict and chaos. The ensuing course of action that individuals undertake because of safety concerns has the potential to either result in their displacement or in the engagement of agricultural activities that are firmly rooted in the ground. This suggests that individuals, rather than succumbing to panic driven purchase in times of conflict, resort to making safety driven movements by relocating to nearby communities, regardless of their uncertainty about their future living conditions. Alternatively, they may choose to implement safety-driven lockdowns, despite the potential repercussions of such decisions on agricultural practices, which could impact food availability at the household level and have implications for markets, particularly in the context of commercial farming.

Secondly, it is important to note that the proposed causal mechanism put forward in the study suggests that the destruction of agricultural infrastructure stands out as a major overarching theme that has the potential to result in a decline in local production. However, upon closer examination and analysis, it becomes evident that while this destruction plays a role in the process leading to food insecurity, it is not necessarily a predominant or highly significant factor in isolation. Rather than destruction of agricultural infrastructure, grounded agricultural activities emerged as an overarching theme which by implication leads to decline in local production, and is as a result of the intricate interplay of three primary codes: namely, the

presence of insecure farm routes, the occurrence of attacks on farmers, and the destruction of farmlands.

Although participants mentioned the destruction of farmlands the overall consequences of destruction in agricultural infrastructure is not dominant. Most cases of farmland destruction were predominantly manifests in the form of burning, by these herders particularly after harvest, in addition to instances of grazing on the crops prior to harvest. However, the analysis indicates that the significance of this destruction lies in its timing; specifically, only when crops are grazed upon before harvest does it have the potential to lead to a decline in local production. In cases where farmlands are burnt post-harvest, it is considered a beneficial agricultural practice. This burning process is recognized for its ability to enrich the soil and rejuvenating it for subsequent farming seasons.

Moreover, while the destruction of farmlands does have implications for local production, the study highlights that safety concerns wield a more substantial influence. The presence of safety issues, such as insecure farm routes and attacks on farmers while they work the land, can significantly deter individuals from engaging in agricultural activities. This reluctance to work in such conditions, even when farmlands remain intact and suitable for cultivation, ultimately leads to the grounding of agricultural operations and subsequent decline in local production levels. Therefore, it is crucial to recognize that while the destruction of agricultural infrastructure does play a role in food insecurity, the broader context of safety concerns and their impact on workforce participation must also be taken into account when addressing issues related to local production.

The analysis also identifies an additional finding related to this hypothesis. Upon careful examination of the data, it became apparent that there was disruption within the trade systems as suggested. However, in contrast to the initial assumption which posited that the disruptions

were due to a breakdown in transportation infrastructure, these disruptions were primarily attributable to the closure of markets for prolonged durations and the resulting supply instability stemming from such market closures.

Another significant finding that has emerged pertains to the theme of economic implications. Despite not being explicitly posited in the causal mechanism, the economic impact has become discernible through the analysis of the gathered data. The various processes contributing to the lack of access to food within the communities where the conflict is situated also carry ramifications for the food security of the entire nation. These communities, which serve as the focal point of these conflicts, are not only vital in supplying food domestically but also act as the primary sources for exporting agricultural products from Nigeria. A decrease in local agricultural output would consequently result in a reduction of available food for both local consumption within the community and at the national level, leading to minimal to no surplus for exportation to foreign markets. While this aspect may not have been explicitly considered initially, its significance lies in the spatial spillover effects of conflict on food security. Essentially, the conflict within Nigeria has the potential to trigger food insecurity in neighbouring countries due to the lack of surplus for exportation to these nations.

To conclude about the direct impact of conflict on food security, two major causal mechanisms were identified. Each mechanism shows how conflict directly affects the food unavailability at the local or community level and the food inaccessibility at the national level, respectively as the major process by which conflict can lead to food insecurity within a nation. The process is made up of two stages. The first stage comprises of conflict to food unavailability at the local or community level, while the second stage is an extension of stage one which leads to food inaccessibility at the national level.

Displacement and Grounded Agricultural activities are the leading themes and can function independently of each other. Any of these themes will always be at the forefront and will trigger the other sets of events and processes that cause conflict to lead to food insecurity. Depending on the first theme, the process can commence either by displacement or grounded agricultural activities. In the case of displacement, conflict leads to displacement, where individuals are compelled to migrate because of conflict rather than being aware of the potential for an attack. These individuals subsequently become homeless in their new places of residence, resulting in an influx of population in the new community and subsequently causing overcrowding, and in the process of grounded agricultural activities, conflict leads to grounded agricultural activities, which is characterized by destruction of unharvested crops and farmlands, and insecure farm routes that makes farmers skeptical of going to the farm and when they brave it leads to their attacks and in extreme cases their death.

The displacement or grounded agricultural activities results in a condition of food crises characterized by disturbances in the functioning of market operations. These fluctuations result to instability in the food supply chain for both wholesalers and retailers. This uncertainty about future supplies leads to inadequate food stocks and unavailability of food for households and communities at the local level.

An extension is that the food shortages in local communities lead to restricted or non-existent exports from these communities to other regions of the country. The effect is that exports from unaffected communities become excessively expensive, resulting in nationwide price increases and rendering food inaccessible to vulnerable populations.

For this hypothesis, the emerging causal mechanisms will be.

Causal Mechanism 1: Conflict – displacement or grounded agricultural activities – food crises – food unavailability.

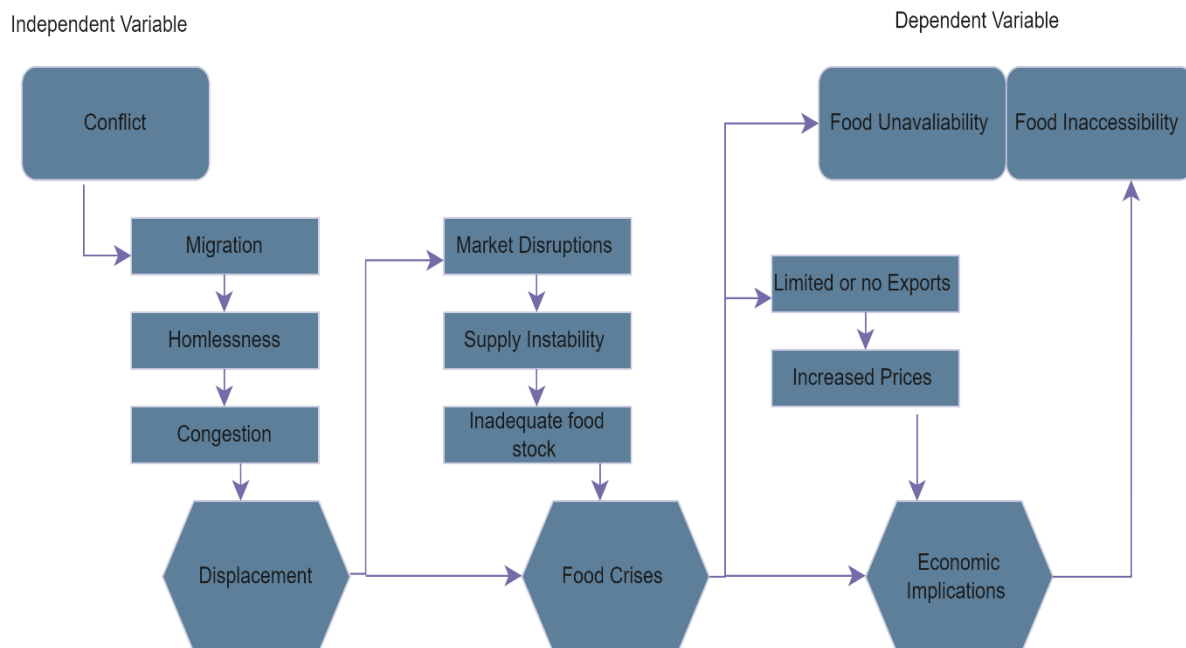


Figure 1 Emerging Causal Mechanism 1

Causal Mechanism 2: Conflict - displacement or grounded agricultural activities – food crises – food unavailability for export to other regions - rapid escalation in food prices

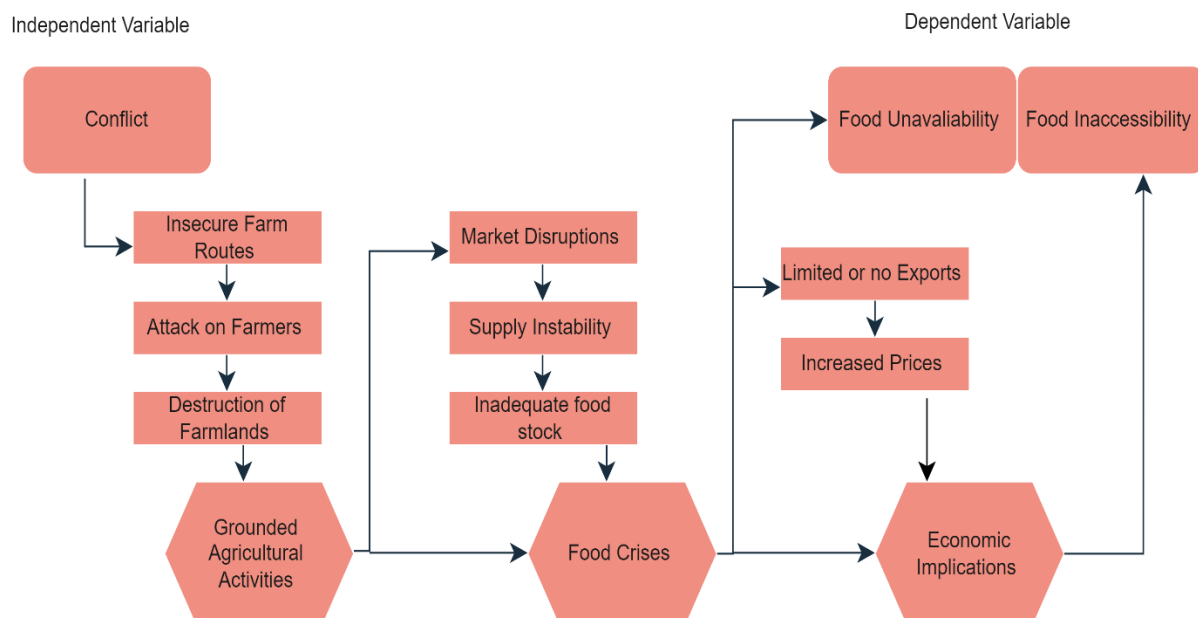


Figure 2 Emerging Causal Mechanism 2

H2a: *The presence of armed conflict within a nation causes a disruption in the trade relations with neighboring countries resulting in a decline in food availability and accessibility of the neighboring countries.*

H2b: *The presence of armed conflict within a particular nation causes a rise in cross-border migration from said nation to a neighboring country, consequently leading to a decline in food accessibility within the receiving nation*

Causal Mechanism 3: Conflict - destruction of agricultural and transportation infrastructure - disruption in the trade relations between two countries - imbalance in demand and supply curves of the receiving country - increase in food prices – food inaccessibility.

Causal Mechanism 4: Conflict - influx of individuals across borders – disruption of the equilibrium between the available food supply and the population - scarcity of food resources – increased prices of available food.

In the first proposed causal mechanism, there are two primary factors that were conspicuously absent in the data that was gathered: the presence of trade connections between the two nations and the devastation of Agricultural and transportation infrastructure as a result of the conflict. The discussion by the participants did not include any reference to the presence of trade relations between the two countries. As posited in the hypothesis, the data available alluded to the development of a small-scale economic centre within the border communities due to the continual and active engagements among all pertinent government agencies in both nations, and the constant movement of individuals across the borders. The inhabitants of these communities engage not only in the exchange of food items with one another at the border points, but also with other individuals who, for various reasons, find themselves at the borders. Secondly, in contrast to the initial hypothesis posited, there was an absence of empirical data corroborating firstly the presence of agricultural undertakings within the communities under

examination, followed by the decimation of said activities, the accompanying infrastructure, and the transportation networks responsible for ferrying food commodities to the economic hubs of these bordering communities due to the prevailing conflict. Nonetheless, the dataset brought to light that the disruption of livelihood sources primarily stemmed from individuals being compelled to abandon their occupations as a result of displacements and the imperative need to resettle owing to the conflictual circumstances. It can thus be deduced that the intactness of the transportation systems and infrastructure might possibly be attributed to the active involvement of the state through its pertinent agencies, alongside the military presence in these bordering communities considering the incessant activities unfolding in these vicinities. In conclusion, the initial segment of the hypothesis failed to find substantiation in the data analysis. There exists no empirical substantiation indicating the existence of trade relations between the two nations, the presence of agricultural endeavours in the border communities, as well as the devastation of the agricultural and transportation infrastructure.

The latter segment of this hypothesis, on the other hand, unfolded in a manner different from the findings of the first part. In the first place, the available evidence unequivocally corroborates the postulated causal mechanism underpinning the hypothesis; nevertheless, there was a slight alteration in the sequence of events comprising the causal mechanism. Consistent with the causal mechanism, a total of three overarching themes surfaced, namely forced migration, increased demand, and escalating food prices.

Forced migration is the first trigger that initiates a chain of actions that cause conflict to lead to insecurity. In this process, it is worth noting that conflict plays a pivotal role in compelling individuals to migrate forcefully from the comforts of their homes to seek refuge in more secure and stable regions located in neighboring countries. As a direct consequence of this forced migration, the host community finds itself confronted with an unbalanced state of population dynamics. This change in the population dynamics, in turn, triggers a series of events that have

far-reaching implications. Contrary to the proposed causal mechanism which suggests that the increased population directly leads to an imbalance in the available food resources in the receiving communities, the current research findings indicate that this increase in population brings about a shift in the perception held by the residents of these communities. Specifically, the heightened population levels within the host community are perceived by its members as an opportunity to engage in increased sales and economic activities. In other words, rather than the increase in population leading to an equilibrium imbalance between population and available food, it becomes relevant in increasing the buying potential of the host community, thereby increasing the demand for goods and services.

However, it is crucial to acknowledge that this surge in demand for goods and services comes at a significant cost. The newly arrived refugees, who are still grappling with the challenges of adapting to their unfamiliar surroundings, find themselves in a state of vulnerability and desperation. As a result, they are often subjected to various forms of exploitation within the host community, who take advantage of their dire circumstances and their desperation for shelter and basic amenities.

The emerging causal mechanism for this complex interplay between conflict, forced migration, and the subsequent exploitation of vulnerable refugees is a substantial increase in the demand for goods and services within the host community, and consequently, leading to the overall outcome of increased prices for food therefore making it inaccessible for vulnerable members of the population.

Causal Mechanism: Conflict – forced migration – increase in population – perceived increased buying potential – increase in demand – increase in food prices.

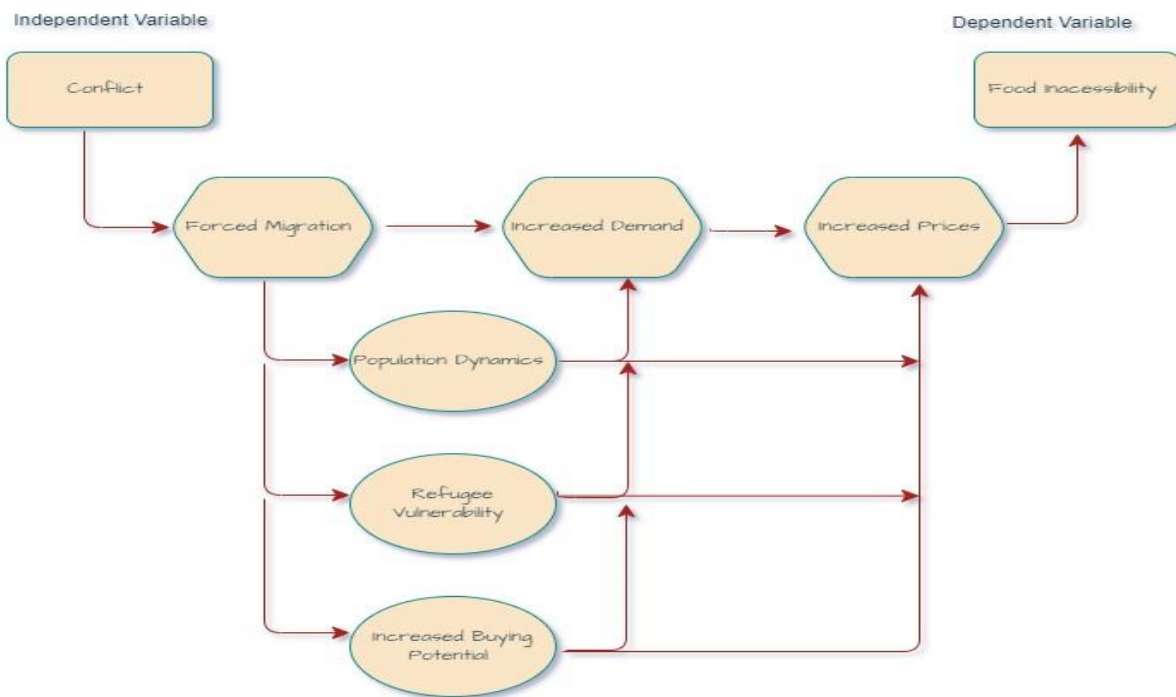


Figure 3 Emerging Causal Mechanism 3

The most significant revelation within this hypothesis and for the entire body of research pertains to the correlation identified between the influx of refugees and the subsequent surge in prices observed within host communities. However, it is crucial to note that there is a distinct lack of empirical evidence to substantiate the claim that this inflation in prices carries significant economic implications that extend beyond the boundaries of the regions directly impacted. To elaborate further, the arrival of refugees sets off a chain of events that ultimately culminates in a spike in the prices of food and essential commodities, rendering them inaccessible for the vulnerable populations residing within these communities. Nevertheless, it is imperative to underscore that this phenomenon does not manifest in any discernible manner when it comes to the pricing dynamics of food items in other areas within the same country or at a national level. The repercussions of refugees on food prices are predominantly confined to the communities receiving them, leading to the confident assertion that the influence of conflict in one nation on the food security of another is fairly limited in scope. It is most pronounced

and efficacious within the border regions, rather than being uniformly felt and widespread across all regions of the neighbouring country.

Table 3 Summary of Hypothesis and Causal Mechanisms

S/N	Hypothesis	Initial Causal Mechanism	Emerged Causal Mechanism
1.	The presence of armed conflict within a nation inevitably results in an adverse effect on the overall state of food prices and market accessibility/ food supply availability within said nation	a. Conflict - Panic-driven purchases - stockpiling of food - increase in demand - disruption of supply chain - and increase in food prices.	a. Conflict – displacement or grounded agricultural activities – food crises – food unavailability.
		b. Conflict - Destruction of agricultural infrastructure - decline in local food production - disruptions in trade systems stemming from the breakdown of transportation infrastructure - rapid escalation in food prices.	b. Conflict - displacement or grounded agricultural activities – food crises – food unavailability for export to other regions - rapid escalation in food prices
2.	H2a: The presence of armed conflict within a nation causes a disruption in the trade relations with neighboring countries resulting in a decline in food availability and accessibility of the neighboring countries.	a. Conflict - destruction of agricultural and transportation infrastructure - disruption in the trade relations between two countries - imbalance in demand and supply curves of the receiving country - increase in food prices – food inaccessibility.	a. Conflict – forced migration – increase in population – perceived increased buying potential – increase in demand – increase in food prices
	H2b: The presence of armed conflict within a particular nation causes a rise in cross-border migration from said nation to a neighboring country, consequently leading to a decline in food accessibility within the receiving nation	b. Conflict - influx of individuals across borders – disruption of the equilibrium between the available food supply and the population - scarcity of food resources – increased prices of available food.	

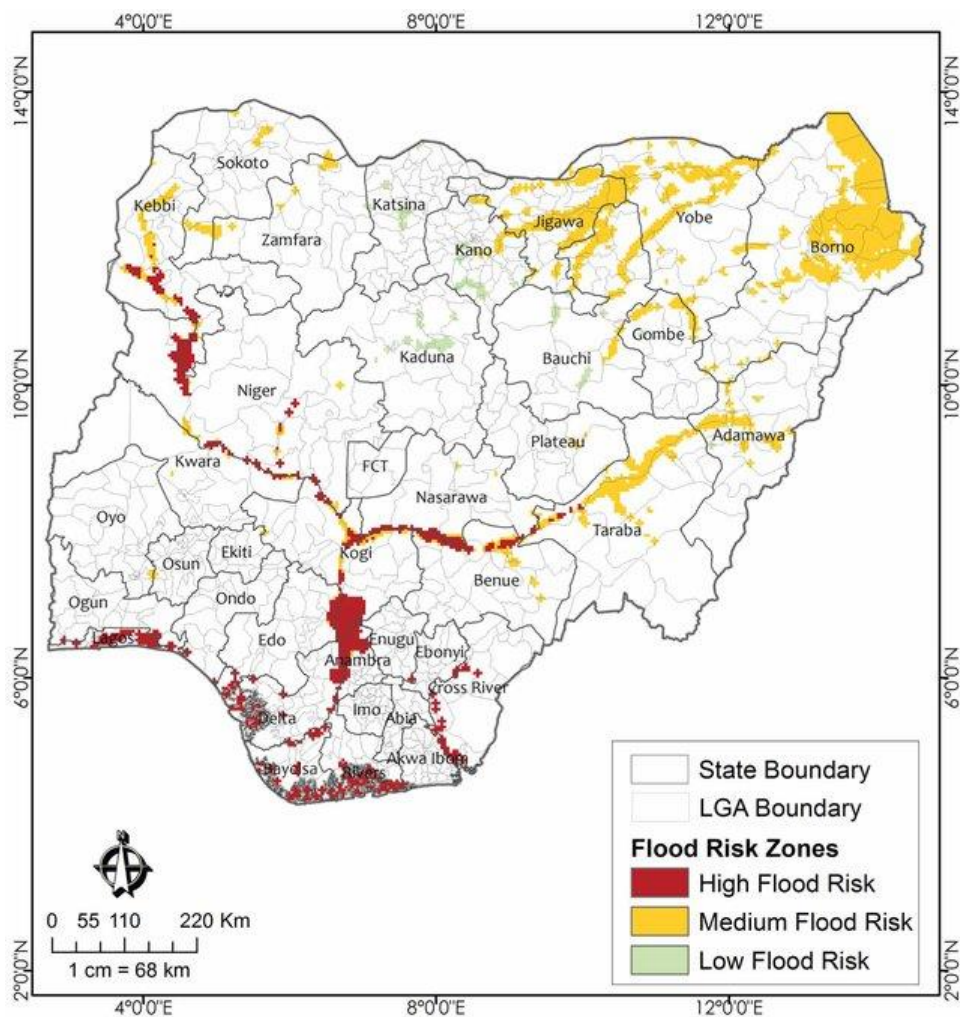
6.4 Alternative Explanations

The predominant alternative rationale posited for the occurrence of conflict within the scope of this particular research pertains to the impact of climate change. Specifically, the impact of climate change in relation to the dependent variable are flooding and drought.

Nigeria, despite experiencing seasonal floods on a regular basis, witnessed its most extreme flooding in the year 2022. This particular occurrence exceeded previous records by impacting not only the regions accustomed to flooding but also expanding its reach to other areas. In the month of September 2023, the Nigerian government categorized the states vulnerable to

flooding based on their respective levels of susceptibility. Category A was allocated the highest rating and singled out as the most at-risk states. The states encompassed within this classification consist of Anambra, Bauchi, Bayelsa, Benue, Borno, Kogi, Nasarawa, Niger, Rivers, Enugu, Kano, Oyo, Yobe, and Zamfara.

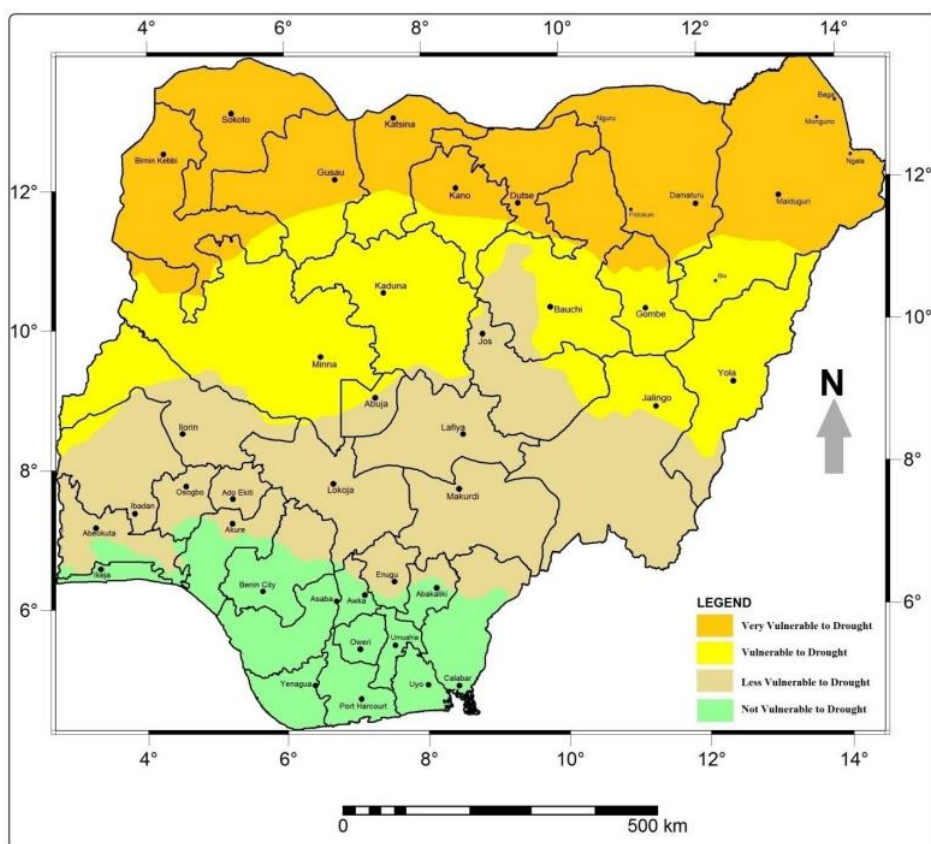
Figure 4 Flood Vulnerability Map of Nigeria



The cases chosen to be analysed are situated within Benue state, which falls under category A states that are highly vulnerable to flooding, as well as Plateau state, categorized as a category C state with the lowest susceptibility to flooding. In the context of the Otukpo massacre that took place in Benue state, the specific timing of this selected case effectively eliminates flooding as a potential factor contributing to the prevailing food insecurity issues that were

prevalent within the state and consequently the entire nation. The occurrence of the Otukpo massacre in 2024 coincided with the peak period of the dry/harmattan season in Nigeria. In the same light, the conflict in Bokkos Lardin that occurred in Plateau state, a category C state that has a very limited history of flooding incidents, also took place during the dry season. These circumstances serve to discredit the notion that flooding could have played a role in causing food insecurity in the region.

Figure 5 Drought Vulnerability Map of Nigeria



Droughts on the other hand would have been another explanation for food insecurity in Nigeria however based on available data, Nigeria has last experienced droughts that led to food crises in the 1980s. The last sever droughts in Nigeria happened between 1983 to 1984, after which the federal government through relevant agencies put up schemes and institutional arrangements that have helped to manage drought in Nigeria since then till date. In addition,

the areas susceptible to drought in Nigeria are the northern region, and when they do manifest, droughts tend to be more severe in these regions. The selected cases do not fall within these regions and if there will be an occurrence of drought, they are least vulnerable to experiencing it.

6.5 Limitations of the study

The principal constraint encountered during the study revolves around the inadequacy of available data, which significantly hampered the research process. The initial count of individuals who manifested interest in taking part in the study following recruitment amounted to 56; however, merely 12 individuals ultimately engaged in the interview process. This particular setback stemmed from a combination of two prominent issues, namely the challenges associated with virtually collecting data and the time constraints imposed on the research endeavor.

Given that the data collection was executed in a virtual manner, the task of reaching out to individuals residing in the specific regions earmarked for the case study proved to be quite arduous. These case studies were situated in remote and border areas, making it challenging to physically convince individuals to partake in the research. Establishing trust with participants in a virtual setting was particularly daunting due to the pervasive nature of internet scams, necessitating substantial time and effort to repeatedly assure participants that the research was legitimate and not a fraudulent scheme.

Addressing the issue of establishing trust aside, the secondary challenge revolved around the hesitancy exhibited by individuals who initially expressed interest in participating but were unwilling to disclose information voluntarily without financial incentives. While some participants eagerly shared their experiences as a form of therapeutic engagement, others viewed it solely as a means of generating income. Despite the necessity of obtaining their input,

ethical considerations precluded the researcher from remunerating participants, as the research guidelines explicitly stated that there would be no monetary compensation for involvement.

Moreover, certain individuals proved reticent in re-living their experiences leading to further complications. A number of participants withdrew from the study after receiving insights into the nature of the questions from individuals who had already undergone the interview process.

Technical challenges also marred the data collection phase, causing it to surpass the allocated time frame due to issues related to network coverage in participants' areas. Additionally, the data collection period coincided with the African Cup of Nations tournament, further exacerbating the situation. Owing to the prevalent network congestion during match times, scheduling interviews became a cumbersome task, with participants opting to utilize their internet connection for viewing matches rather than engaging in interviews. Despite attempts to conduct sessions immediately post-matches, poor connectivity often thwarted such efforts.

Given the research's time constraints, the analysis had to proceed with the available data, despite falling short of the researcher's expectations. Had there been a more expansive timeline, the researcher could have potentially travelled to the affected regions to collect data in person, circumventing the challenges encountered during virtual data collection.

CHAPTER 7. CONCLUSION

Empirical research has demonstrated the spatial spillover effects of violent conflict in one country on the food security of another country, particularly those in close proximity and sharing a common border. Previous research in this field has consistently relied on the utilization of quantitative and statistical regression models as the predominant methodology. One of the key advantages of the current study lies in its adoption of a qualitative approach, which serves not only to validate the relationship between conflict and food security from a geospatial standpoint but also to elucidate the manner in which these variables are interconnected. Going beyond mere established correlations, the primary objective of the study was to pinpoint the causal mechanisms that underlie the phenomenon of conflict in one country precipitating food insecurity in neighbouring countries, achieved through the application of the process tracing method.

Safety concerns, which were a predominant factor influencing both hypothesis one and two, play a crucial role in shaping the behaviours and decisions of individuals amidst conflict situations. The initial assumption in the pre-study phase suggested that conflicts trigger a sense of urgency among the population residing in the conflict-affected regions, leading to panic-induced buying and subsequent stockpiling of goods. However, the findings of this research indicate that safety concerns emerge as the most pivotal consideration at the onset of any conflict. Consequently, all choices made by individuals residing in conflict-ridden areas are viewed through the lens of ensuring safety, rather than focusing on the immediate repercussions of the conflict. It is evident that safety apprehensions not only lead to displacement and force migration but also result in the grounding of agricultural activities, consequently exacerbating food shortages within the communities. Furthermore, the impact of conflicts in Cameroon on the food security of neighboring Nigeria primarily manifests through the influx of refugees, which in turn affects food prices within the receiving communities. Despite the surge in prices

witnessed in these areas, the overall effect of these increased prices on the national food prices in Nigeria are non-existent.

Although the primary focus of the study did not centre on this particular aspect, it is crucial to acknowledge the extensive economic ramifications brought about by conflicts, which extend beyond the borders of Nigeria to impact neighbouring nations as well. These regions embroiled in conflict play a pivotal role as significant food-producing areas within the Nigerian territory, serving as the very bedrock for the entirety of local agricultural output, intended for both domestic consumption and international trade. As a consequence of the diminished yield in local food production due to the conflict, it can be inferred that the limited food resources will predominantly cater to internal demands, thereby resulting in a notable absence of exports of cash crops, in other words, the conflict in Nigeria has consequences on the food security of neighbouring countries that depend on her for agricultural products.

While there is a significant body of empirical research on conflict and food security, there has been relatively little focus on the potential conditional possibility of spatial spillover effects. This assumption expands upon the refugee effect hypothesis and examines the probability that the spatial impacts of conflict on a country's food security are contingent upon the simultaneous presence of conflict in both nations. There is room for further exploration in this area to expand our understanding of the dynamics at play.

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APPENDIX 1

Oral Consent Script

Introduction:

Hello. I'm *Adaora Emehel*. You are invited to participate in a research study on the spatial spillover effects of conflict on food security.

You were referred to me by.....

Study procedures: I'm inviting you to do a one-on-one interview for 60 minutes on questions about conflict and food security such as

- **Have you ever experienced conflict?**
- **Have you ever been moved to an internally displaced persons camp?**

Risks: In agreeing to participate in this study, the most likely risk to be encountered is discomfort from talking about your experience. This study will adhere to strict protocols for protecting your data, ensuring confidentiality and anonymity as the recordings and transcripts of your video will ensure to protect your identity and any information that might be used for identification purposes.

Benefits:

It is unlikely that there will be direct benefits to you, however, by better understanding how conflict leads to food insecurity, researchers and others may be able to draw on this to effect change and drive policies toward mitigating the conflict and its effects on food security.

I will keep the information you tell me during the interview confidential. Information I put in my report that could identify you will not be published or shared beyond the research team unless we have your permission. Any data from this research that will be shared or published will be the combined data of all participants/ reported using the category name with numbers assigned.

Voluntary participation:

- Your participation in this study is voluntary.
- If you decide to stop participating, there will be no consequences to you.
- If you decide to stop we will ask you how you would like us to handle the data collected up to that point.
- This could include returning it to you, destroying it or using the data collected up to that point.
- If you do not want to answer some of the questions you do not have to, but you can still be in the study.
- If you have any questions about this study or would like more information you can WhatsApp (+2347039599598) or email adaora.emehel@nu.edu.kz

This study has been reviewed and cleared by the Nazarbayev University Institutional Research Ethics Committee. If you have concerns or questions about your rights as a participant or about the way the study is conducted, you may contact:

Nazarbayev University Institutional Research Ethics Committee

E-mail: resethics@nu.edu.kz

Consent questions:

- Do you have any questions or would like any additional details?
- Do you agree to participate in this study knowing that you can withdraw at any point with no consequences to you?

APPENDIX 2

Interview Guide

Generic Questions

1. **Can you please introduce yourself?**
 - a. How long have you lived in the region? (mention the state)
 - b. Can you share your journey in the region? Were you born there? Are you from the region? What took you to the region?
2. **Have you ever experienced conflict?**
 - a. When was your first experience?
 - b. Can you share the experience if you don't mind?
 - c. How did you truly feel, what was your first impression when you first heard the chaos?
3. **What were the first actions you took?**
 - a. Did you think of food?
 - b. ?
 - c. ?
 - d. ?
4. **What was the last conflict you experienced?**
 - a. Was the experience any different from your very first encounter? In terms of fear and preparations to escape to safety?
 - b. ?
 - c. ?
5. **Have you ever experienced a conflict that came with a prior warning of a possible attack?**
 - a. How did you get the information?
 - b. Did you make any decision based on the information?
 - c. Can you share? Why did you make the decisions?

Questions for Hypothesis One

6. **Have you ever been moved to an internally displaced persons camp?**
 - a. What camp and who handled the logistics of the movement?
 - b. How swift was the response? How long did it take to get to the camp, how many days?
 - c. Between the time of the conflict to the time you got to camps did you experience food problems?
 - d. Care to share?
 - e. How was the experience in the camp?
 - f. Did you have any food problems?
 - g. How long did you stay in the camp before you returned home?
7. **Back home after the IDP camps experience, how was food availability in your area?**
 - a. Did you have problems with access to the market?
 - b. Were there enough people in the market? Was the market back to its usual routine?
 - c. What of the food items, was there enough food items in the market?
 - d. What of the prices, was it different from what it used to be before the conflict outbreak?

Questions For Hypothesis Two

8. **Living in the border regions did you ever flee to Nigeria during conflict Outbreak?**
 - a. Can you give a description of how it happened?
 - b. Who facilitated or organized the movement?

- c. Was it swift or planned?
 - d. How long did it take to get to the closest Nigerian community? How long was the journey?
 - e. What was your means of transportation?
 - f. How was the security in the boarder regions?
 - g. Between the time of the conflict to the time you got to Nigerian community did you experience food problems?
 - h. Care to share.
 - i. How was your experience in the Nigerian community?
 - j. Did you have any food problems?
 - k. How long did you stay in Nigeria before you returned to Cameroon?
9. **Living in the border regions have you ever experienced refugees coming into Nigeria due to conflict Outbreak in Cameroon?**
- a. How often?
 - b. How do you know the refugees are around at any point in time?
 - c. What are your first responses when you see them, your first impression and first line of action?
 - d. Did you notice any change in food availability with their presence?
 - e. Did things become more expensive in the market?
 - f. Did food become scarce?
 - g. How long did the increase in food prices last?
 - h. How long did the refugees stay?
 - i. How do you know they are gone?
 - j. Was there a change in the food prices and availability of food items in the market after they are gone?
 - k. Do you think the refugees contribute to increased food availability?
 - l. Is there any difference from the very first time and in recent times?
10. **How often do conflicts happen now in the area?**
- a. Has the frequency of occurrence affected how you react to these events?

Interview Questions for NCFRMI and UNHCR staff (for validation and more details)

11. **Can you please introduce yourself?**
- c. How long have you worked for the organization?
 - d. Can you share your journey in the organization, I mean from one department to another?
 - e. Can you share a personal experienced on one of these missions?
12. **Who are your stakeholders?**
- d. Can you briefly explain what you do with each of these stakeholders?
 - e. Why are these stakeholders important to your work?
 - f. Can you share one or two examples of cases where the lack of the contribution of these stakeholders caused a problem?
13. **How often does your organization handle movements to IDP camps?**
- a. What is your mission?
 - b. Can you share the process of the movements?
 - c. Are you affiliated with any government parastatals?
 - d. ?
 - e. ?
 - f. ?

- 14. How often do we have massive cross-boarder migration?**
- e. Does these cross-boarder migrations happen between both countries or just usually from one country to another?
 - f. At what time of the year is the cross-boarder migration the highest?
 - g. What are the causes of these cross-boarder migrations?
- 15. For conflict induced cross boarder migrations, how often does conflict in Cameroon lead to migration into Nigeria?**
- d. When these people cross the boarders, how long do they stay in Nigeria?
 - e. Where do they stay in refugee camps or?
- 16. How are these people settled for life and assimilated into society?**
- h. During their first days do you cater for them, provide basic amenities like food and all?
 - i. How do you source the food you provide for them at the initial stages of the migration?
- 17. Within the society these people are settled into, and at the time of their documentation, have you ever experienced shortages of food, or food unavailability from your food sources?**
- e. Can you say is the cause of this food shortages and unavailability?
 - f. How long did it last, I mean the food unavailability and shortages?
- 18. What of food prices, are there any difference in food prices during these periods?**
- a. Do you think that these cross-boarder migrations lead to the increases in food prices within these areas that these refugees are settled in?

APPENDIX 3

Prompt For line-by-line coding.

- a. Code the above data from an interview using line by line open coding method.

Prompt For first set of Themes.

- a. Code the above data from an interview into themes relevant to the following causal mechanism.